

Institutional Master Plan Notification Form

Third Amendment to the Institutional Master Plan



Northeastern University
Boston Campus

Project Notification Form
Project Notification Form

Residence Hall I and Building J
Residence Hall K

Submitted to
Boston Redevelopment Authority
Boston, Massachusetts

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Institutional Master Plan Notification Form (Third Amendment to the Institutional Master Plan)

Introduction

Founded in 1898, Northeastern University (“the University”) is a private urban research university located on both sides of Huntington Avenue on the edges of the Fenway, South End, Mission Hill and Roxbury neighborhoods of Boston, Massachusetts. The University serves approximately 22,600 full-time and part-time undergraduate and graduate students.

In 2000, the University initiated the Institutional Master Plan (“IMP”) process, pursuant to the requirements of Article 80 of the Boston Zoning Code administered by the City of Boston Redevelopment Authority (“BRA”) for the purpose of putting in place an Institutional Master Plan zoning overlay district for its main campus, to be effective for a 10-year period.

The First Amendment to the IMP was approved in 2001 for Buildings G and H, adding 530 beds to the campus. In 2004, the BRA approved a Second Amendment to the IMP for the construction of West Village Residence Hall F (adding 229 beds), classrooms, honors administration, and the John D. O’Bryant African American Institute.

As required by the Boston Zoning Code, this Institutional Master Plan Notification Form (“IMP NF”) / Project Notification Form (“PNF”) initiates the process for the submission of a Third Amendment to the IMP, describing the proposed changes summarized below:

- To provide information on two new student residence halls on the current site of Cullinane Hall (288 St. Botolph Street) and on Parcel 18 West on Tremont Street to allow development of on-campus student housing and other university uses;

- To address the designated uses of five additional university-owned properties to meet anticipated future needs and;
- To update the list of university-owned properties to include properties acquired since the adoption of the IMP or which were not included in the 2000 IMP.

The approval of the Third Amendment to the IMP will enable the University to satisfy the terms of the Memorandum of Agreement (“MOA”) with the City of Boston.

Mission and Goals of the University

Northeastern University is a national research university that is student centered, practice oriented and urban. With rising SAT scores, an increasing number of applicants, a dramatic increase in student retention, promising growth in externally sponsored research, a strong commitment to the City of Boston and a cooperative education program that distinguishes Northeastern from other institutions of higher education, the University is poised to achieve its wide range of goals and objectives. It is the purpose of the Institutional Master Plan to provide an organizational framework for creating a physical plant and infrastructure that strengthen and celebrate the University’s mission.

The principles guiding the formulation of the Institutional Master Plan relate directly to the mission as stated:

- Academic facilities will be of a caliber to maintain the University’s instructional and research programs;
- Residential environment will play an increasingly important role in attracting and retaining qualified students;
- Campus aesthetics are important to the quality of campus life; open space will become increasingly important; and
- Attractive gateways and edges to the Campus, high quality space for interaction with the public and pedestrian circulation are important in maintaining the University’s connection to its neighbors.



Goals of the University

The 2000 Institutional Master Plan and its subsequent Amendments identified Northeastern’s long-term needs, goals, and objectives as being those corresponding to the development projects proposed in the Institutional Master Plan such as additional student housing, enhanced technology, replacement of outdated

buildings, and long term preventative maintenance. To the extent that these needs have evolved, they are discussed below in the Third Amendment.

Memorandum of Agreement

The primary need for the Third Amendment to Northeastern University's 2000 Institutional Master Plan was brought about by a Memorandum of Agreement (MOA) signed by the University and the City of Boston in July 2004. In addition to other requirements, the MOA requires Northeastern to submit IMP amendments to the Boston Redevelopment Authority (BRA) to "...include two or more on-campus housing developments on Northeastern owned land containing a minimum of 1,250 student beds."

The impetus for the MOA between the City and the University were two fold. The first was the University leasing private housing for the purposes of housing students. The second was the impact of a large number of students living in the surrounding neighborhoods. In response to community concerns, the University agreed to a plan for phasing out its inventory of leased off-campus beds under its Master Lease Property Program (MLPP) by expanding on-campus housing and to implement a number of measures for improving property management, and safety and security in leased properties. The MOA provides for a five-year phase-out of the 750 beds in the MLPP commencing with the issuance of construction permits for on-campus housing. The review and approval of the Third Amendment to the 2000 IMP will allow the University to meet the terms of the MOA. In accordance with the MOA, the University is proposing to phase out the MLPP according to the following schedule:

Table 1-1
MLPP Schedule

Type	Number of Leased Beds
Base Year	750 leased beds
Year 1	675 leased beds (minus 75 beds (10% of base year))
Year 2	600 leased beds (minus 75 beds (10%))
Year 3	450 leased beds (minus 150 beds (20%))
Year 4	225 leased beds (minus 225 beds (30%))
Year 5	0 leased beds (minus 225 beds (30%))

Community Task Force

In an effort to engage in a more collaborative and open process regarding an institution's planning for physical development, the University, the City of Boston, the Boston Redevelopment Authority, the University's neighbors from the Fenway, Roxbury and Mission Hill, as well as local elected officials joined together to attempt a new form of university/community discussion. This new form of collaboration was founded on the notion that more could be gained by all parties involved if the community was consulted during the University's planning process versus the old process where the community was engaged at the end of the planning process.

Accordingly, a new Community Task Force was established to work proactively with the University in the development of the plan. The Community Task Force (the "Task Force") is comprised of fourteen members from the Mission Hill, Roxbury and Fenway neighborhoods and seven elected officials serving as ex-officio members. Each Task Force member was nominated by a local elected official, and appointed by the Mayor's Office and Boston Redevelopment Authority. The Task Force includes the following representatives and ex-officios:

The Fenway Community

- Cindy Brophy
- Joyce Foster
- Bill Richardson, Co-Chair
- Joyce Starner

The Roxbury Community

- Bruce Bickerstaff
- Linda Evans
- Reggie Jackson
- Sandra McIntosh, Co- Chair
- Jean Pinado

The Mission Hill Community

- Clara Aaron
- Pat Flaherty
- MaryAnne O'Keefe
- Adeline Stallings

Ex-Officios

- State Representative Gloria Fox
- City Councilor Michael Ross
- State Representative Byron Rushing
- State Representative Jeffrey Sanchez
- State Senator Steve Tolman
- City Councilor Chuck Turner
- State Senator Dianne Wilkerson

The University committed to a public process that departs from the approach of having institutions inform neighbors of their short- and long-range plans. Rather, it seeks to include neighbors during the process of developing those plans. This involvement is not intended to replace the community processes that are part of the Article 80 process. The University views the work of the Task Force as expanding and extending the community review process by involving the community earlier and more extensively in the process of developing the IMP.

The University has sought the input of the Task Force in the development of the residential projects included in the proposed amendment to the IMP. As part of this effort, the Community Task Force or sub-groups have met 22 times since December 2004 to discuss on-campus housing issues. While meetings of the Task Force are geared toward participation by Task Force members, the meetings are open to the public and questions and comments from the audience and the Task Force have regularly been part of the meetings.

To meet the requirements of the MOA, the University initially presented a proposal to the Task Force to construct an 855-bed residence hall on the North Lot and a 705-bed residence hall on the Camden Lot. Both sites were selected, in part, because they are parking lots that could be relatively quickly developed. No structures would need to be razed and no replacement spaces for razed structures would need to be constructed before construction of the residence halls could commence. In addition, the North Lot is adjacent to existing campus housing and dining facilities in Speare and Stetson Halls. The Camden Lot is adjacent to a pedestrian crossing of the Orange Line and Commuter Rail tracks and is relatively close to academic and student housing buildings on campus. The University presented conceptual plans for the Camden Lot and alternative site layouts for the North Lot.

Members of the Task Force expressed opposition to the development of the two sites for housing because of concern over the potential impacts on local neighborhoods. In response to these concerns, Northeastern embarked on an extensive effort to work with the Task Force to assess the potential use of alternative campus sites for University housing. This effort focused on providing the number of beds required by the MOA, meeting the schedule set forth in the MOA, the cost of developing alternative sites, and the number of beds that could be developed within the financial capability of the University. As part of this effort, the University made the following presentations to the Task Force:

- Analysis of University Student Housing
- Campus Facilities Overview
- Financial Analysis
- Potential Future Campus Organization/Options

Analysis of University Student Housing

The University reviewed the addition of housing under the existing ten-year Institutional Master Plan with the Task Force. Since 1999, the University has added more than 2,989 beds to its on-campus housing supply. With the impending opening of Building F on the West Campus, all on-campus housing included in the current IMP will be operational. As a result of these additions and the leased units, the University's housing capacity will be 50 percent of its undergraduate student enrollment.

One of the critical things the University wanted Task Force members and the broader community to understand was the fact that of the 7,314 occupied beds (2004), the University would lose 1,023 undergraduate beds due to the phasing out the MLPP as per the MOA, the implementation of an agreement to convert 10 Coventry Street to graduate housing, and the expiration of a five-year variance which allowed the University to increase some student residence rooms from double to triple occupancy. This was critically important as it showed that by simply building the MOA prescribed minimum 1,250 beds, the University and the community would only net an additional 227 beds. By providing 1,800 additional beds as described in this Amendment, the University will add 777 beds. The net result of all these changes will be to increase on-campus housing to 8,320 beds. Based on full-time undergraduate enrollment stabilizing at about 15,000, the University housing capacity will increase to approximately 55 percent of full-time undergraduate enrollment.

Campus Facilities Overview

To assist the Task Force and the University in evaluating the potential use of other campus sites for University housing, Northeastern presented an extensive inventory of existing University properties. This inventory included location (address), age, year acquired by the University, gross square footage, number of floors, type of construction, and existing uses. The inventory helped identify sites based on minimizing disruption of existing campus activities and the cost of demolishing existing structures and building replacement structures.

Financial Analysis

The Northeastern University Chief Financial Officer presented information on the financial capacity of the University to build additional student housing. Since University housing is entirely debt financed, this analysis focused on the University's borrowing capacity over the next five years. Because of extensive financing of previous residence hall construction, the University's borrowing capacity is limited to about \$300 million over the next five years. \$100 million is needed to finance non-

housing capital needs leaving about \$200 million for development of housing. These estimates are subject to a variety of financial and external market conditions

To the extent that development of housing eliminates existing facilities and requires construction of replacement facilities, the number of beds that can be built will be reduced. This was demonstrated with the example of the 1,560 beds proposed on the North and Camden Lots. Since those sites are vacant, the 1,560 beds could be constructed for about \$180 million. If dormitories were placed on sites requiring razing and replacing existing structure, only about 900 beds or less depending on housing style could be constructed because of the cost of replacing existing space.



Potential Future Campus Organization/Options

Based on the inventory and suggestions of the Task Force, several sites were identified for more detailed analysis of the feasibility of building University housing closer to the center of the campus.

The University provided a more detailed analysis of several sites identified by the Task Force that the Task Force felt would be appropriate buildings to raze and replace with a residence hall. The Task Force sought to find locations between Huntington Avenue and the Orange Line to build an additional 4,600 beds which would be necessary to reach a 75 percent undergraduate housing goal. This analysis included the suitability of each site for housing, an estimate of the number of beds that could be constructed on each site, the cost of constructing those beds, the cost of demolishing existing buildings, consideration of where replacement space would be located, and the cost of providing replacement space.

The end result of the multi-meeting discussion was that by attempting to place all the new beds in this area it would create several tall buildings some as high as 38 stories, which was clearly an unacceptable solution. In the short term the point was made that if existing buildings were razed to create housing sites it would take twice as long to create the housing facilities and in an effort to stay within the current financial capacity, decrease the number of beds to be built.



Task Force Site Selections

In December 2005, the Task Force and the University agreed to hold a day-long Saturday session in which common goals and objectives were discussed and used as a base to help identify different housing site scenarios to achieve short term and long term housing goals. From that discussion a series of community meetings took place in Roxbury, Mission Hill and the Fenway. From those discussions a Task Force recommended scenario was put before the University. The scenario recommended the following:

Table 1-2
Task Force Recommended Scenario

Site	Number of Beds
Parcel 18	471
Cullinane Building	424
YMCA	471
Gainsborough Garage	1,294
Total	2,682

With the following conditions:

- North Lot and Camden Lot be developed for non-residential use;
- No development of Burke Street in the IMP;
- All sites be linked together in some manner in the forthcoming PNF;
- Housing on Parcel 18 will not interfere with economic development on other part of the Parcel 18 and;
- The University must work with abutters of Parcel 18, and with representatives of the Parcel 18 task force, Whittier Street Development, Alice Taylor Development, Madison Park Development and ROXSE Tenant Homes if they seek a bed count numbering higher than 471. This discussion will include massing, community benefits and mitigation.

The University took these recommendations and proposed three acceptable housing sites currently owned by the institution (Parcel 18, Cullinane Hall and the Gainsborough Garage). The University proposed that it would seek to build approximately 1,200 beds on Parcel 18 West with retail and non-residential space primarily for the relocation of the Cullinane Hall occupants and 600 beds on the current site of Cullinane Hall. The University also agreed to the above mentioned five conditions, most notably that the University will continue to seek an economic development project on Parcel 18. The University does not own the YMCA site and therefore cannot include it in this IMPNF – however the University agrees with the Task Force that the YMCA site would have been an acceptable site for Northeastern-owned housing. Furthermore, the University proposed that it would change the use of Ryder Lot to accommodate current uses (offices and shops) now in the Gainsborough Garage. Lastly, the University would add the following parcels to its Institutional Master Plan by means of this Third Amendment to the IMP: Gainsborough Garage for parking and future institutional mixed use including housing, as well as 109 Hemenway, St. Ann’s Church, Gainsborough Lot, 15 Coventry Street and the Billboard Site (16 St. Cyprians Street).

At the close of the June 26, 2006 Task Force Meeting, the consensus was that the University proceed with the drafting of a Project Notification Form (PNF) as quickly as possible with the expectation that the University would proceed through the Article 80 review process in time to open a residence hall by Fall 2009. The Task Force also recommended that the University provide to them a draft of the PNF in

which to review to confirm the accurate recording of their recommendations and the University proposal.

University's Housing Goals

The goal of increasing on-campus student housing has been addressed in recent years and continues to be a focal point of the University's future growth. As of Fall 2005, the University had a total enrollment of approximately 22,600 students, as shown in the table below.

Table 1-3
Student Enrollment

Type	Number of Students
Undergraduate (full-time)	14,730
Undergraduate (part-time)	3,063
Graduate (full-time)	2,263
Graduate (part-time)	1,930
Law School	618
Total	22,604

Enrollment data as of Fall 2005

While total enrollment has remained relatively stable in recent years, the demand for on-campus, University-operated housing has exceeded the capacity of the University's existing facilities for on-campus housing for many years.

The University has opened nine newly constructed or renovated student residences since 1999, adding approximately 2,760 beds. In addition, Residence Hall F, a 229-bed student residence hall, is currently under construction. As a result, the percentage of undergraduate students housed on campus has increased from one-third in 1998 to one-half in 2004. With the opening of Residence Hall F in 2006, the University will have added new 2,989 beds in the last eight years.

Table 1-4
New or Renovated Student Residences since 1999

Student Residence	Number of New Beds	Completion Date
West Village A	597	1999
West Village B & C	458	2000
Davenport Commons	610	2001
780 Columbus Avenue	117	2001

West Village E	293	2002
Residence Hall G & H	534	2004
10 Coventry Street	151	2004
Residence Hall F	<u>229</u>	2006 (anticipated)
Total	2,989	



Demand for Additional On-campus Housing

Even with 2,989 new beds since 1999, the demand for additional on-campus housing remains strong. Reducing the number of students living off campus by creating housing on campus continues to be a priority for the University and the community. The neighboring communities and city leaders have requested additional on-campus housing.

In response to continuing concerns raised by city leaders and community groups to reduce the number of students living in neighborhoods adjacent to the campus, and the additional concern raised regarding the University's leasing of private housing, the University and the City of Boston signed a Memorandum of Agreement ("MOA") in July, 2004. The MOA focuses on providing additional on-campus housing and phasing out the University's Master Lease Property Program ("MLPP") through which the University leases properties in the adjacent neighborhoods for student housing. The MOA acknowledged base bed count of 750 beds in leased housing in 2004. The MOA calls for phased reductions in leased housing by 10 percent in each of the first two years, 20 percent in the third year, and 30 percent in the fourth and fifth years following the receipt by the University of approvals for a minimum of 1,250 beds.

According to the MOA, the phasing-out of the MLPP will begin when the University receives approvals for two or more additional on-campus residential projects containing a minimum of 1,250 or more beds. The projects must be on land owned by the University.

The Cullinane Hall (288 St. Botolph Street) and Parcel 18 West sites were identified as the most appropriate locations to build additional on-campus housing by the Task Force and the University. Providing housing on these sites will allow the University to meet the terms of the MOA by providing approximately 1,800 beds in new on-campus housing. This new housing will permit the phasing-out of 750 off-campus University leased beds and replace approximately 250 beds which will be eliminated when triples are converted to doubles and 10 Coventry Street is converted to graduate housing.

Third Amendment to the IMP

Pursuant to Article 80D-9 of the Boston Zoning Code, the University proposes a Third Amendment to the approved IMP in order to allow the following:

- To amend the current IMP to include housing on Parcel 18 West, as shown on Figure 1.1;
- To provide information on two proposed new residence halls to be constructed on sites at 288 St. Botolph Street and Parcel 18 West, which will allow development of additional on-campus student housing and other university uses (a PNF for each project is provided in subsequent chapters);
- To address the designated uses of five sites to meet anticipated future needs;
- To update the list of university-owned properties to include properties acquired since the adoption of the IMP and First and Second Amendments;
- To amend dimensional requirements for the IMP area to permit a height on campus south of Huntington Avenue of 22 stories/220 feet.



Proposed Institutional Projects

With this amendment to the IMP, the University proposes two institutional projects to develop approximately 1,800 new on-campus beds (a minimum of 1,250 beds are required by the MOA). Construction of new student residence buildings will allow the University to accommodate a greater percentage of students on campus and to eliminate off-campus University leased student housing.

The University proposes to amend the IMP to add two proposed institutional projects as follows (See Figure 1.2).

Parcel 18 West Development

Currently, a 160-car parking lot, the development of Parcel 18 West will include two new campus buildings. First, a U-shaped building containing two high-rise dormitory-style towers designated as Residence Hall I will be constructed. The 22-story residence towers, connected by a 12-story structure, will contain up to approximately 1,200 beds with dining, retail, office space and general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use,
- Museum,
- Art Studio, Public art display space,

- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,
- Social, recreational space and,
- Theater.

The residence halls will contain ground-floor common areas such as multi-purpose rooms, dining facilities, and office space. The upper floors will contain approximately 1,200 enhanced single-style units (1 bedroom units) geared mostly towards upperclass students.

Additionally, the development of Parcel 18 West will include a six-story building, designated as Building J, fronting Tremont Street. Building J will contain ground floor retail uses, while the upper floors will be used for University offices and meeting space to provide for the relocation of Cullinane Hall occupants. The total building program of Parcel 18 West Development is designed to contain approximately 500,000± SF.

Table 1-5
Parcel 18 West Development

Location:	Tremont Street at Ruggles Street
Current Use:	Parking (non-University)
Future Use:	Residential, Dining, Office, Meeting Space, Retail and Sub-Uses previously listed.
Gross Floor Area:	500,000 ± GSF
Building Height:	214 feet (22 stories)

Parking Facilities:	Located in adjacent Renaissance Garage
Current Zoning:	Ruggles Center Planned Development Area (PDA)
Estimated Cost:	\$180,000,000
Estimated Construction Start:	March 2007

The University is planning to construct new Residence Hall I and Building J on a portion of the Ruggles Center Planned Development Area (PDA), also known as Parcel 18. The portion of Parcel 18 on which the proposed Project is to be constructed is shown as Parcel 18 West on Figures 1.1 and 1.2. By this amendment to its Institutional Master Plan, the University proposes to include housing on Parcel 18 West in the IMP.

Residence Hall K

The development of Residence Hall K is proposed on the site of the existing Cullinane Hall building at 288 St. Botolph Street. The current 28,386 SF building will be demolished and a new building will be built on the site. The new building will contain approximately 600 enhanced single, double and apartment-style units. The 22-story building will contain approximately 200,000± SF. In addition to the student residence units, the proposed program includes multipurpose rooms, student common rooms and lounges, office space, dining and laundry facilities as well as general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use,
- Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,

- Social, recreational space and,
- Theater.

Table 1-6
Residence Hall K

Location:	288 St. Botolph Street
Current Use:	Administration, office
Future Use:	Residential, Multipurpose, Office, and Sub-Uses previously listed.
Gross Floor Area:	200,000 ± GSF
Building Height:	214 feet (22 stories)
Parking Facilities:	Located in adjacent Gainsborough Garage
Current Zoning:	IS (Institutional Subdistrict)
Estimated Cost:	\$75,000,000
Estimated Construction Start:	Fall 2009

The Project Notification Forms (“PNF”) in the following chapters describe both projects in greater detail.

Project Phasing

Upon obtaining all necessary federal, state, and city permits and approvals, the University intends to begin construction of the Parcel 18 West development prior to Residence Hall K. In order to demolish Cullinane Hall for the Residence Hall K project, the existing administration space will be relocated to the new administration contained within Building J of the Parcel 18 West development.



Change in Use

The Third Amendment proposes to address the University’s future plans to develop other parcels. At the current time, no formal development plans have been developed for the following properties. At the appropriate time, the University will file documentation as needed for Article 80 Review. The University seeks to change the use of the following University-owned properties:

Gainsborough Garage Lot

The Gainsborough Garage Lot site, consisting of approximately 68,000 SF, is currently used as a public garage and parking lot for general university use. The

building also houses the various trade shops of the University. In the future, this building will be demolished for the eventual redevelopment of the block from Gainsborough St. west to the current Mugar Hall, including the Cullinane Hall site. The University envisions a student housing project consisting of approximately 1,000 beds in a high rise building of approximately 22 stories with approximately 450,000 SF

The University seeks to change the use to include student housing, student dining, classroom, office, research, laboratory, recreation as well as other general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use,
- Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,
- Social, recreational space,
- Theater and,
- Athletic facilities.

Gainsborough Parking Lot

The Gainsborough Parking Lot site is across Gainsborough Street from the Gainsborough Garage Lot described above.

The University seeks to change the use to include student housing, student dining, classroom, office, research, laboratory, recreation as well as other general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use,
- Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,
- Social, recreational space,
- Theater and,
- Athletic facilities.

North Lot

The North Lot site is located at the intersection of Gainsborough Street, St. Stephen Street and Hemenway Street. The site is currently used as a parking lot and contains approximately 70,442 SF.

The vision for the North Lot site includes general university, classroom and office space as well as attendant accessory uses such as a cafeteria or general fitness space. While not specifically shown and described in previous IMP documents, the University seeks to clarify the proposed future use of the property to include academic, research, laboratory, administration, food service, recreation uses and general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use, Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,
- Social, recreational space,
- Theater and,
- Athletic facilities.

Camden Lot

In the 2000 IMP the Camden Lot site, an irregularly shaped lot of approximately 65,000 SF located west of Camden Street and between the Orange Line and Columbus Avenue currently used as a surface parking lot, is shown as a 600-space parking garage. The future planned use includes parking, which was previously approved, as well as space for office, classroom and attendant general University space. The University seeks to change the use to include academic, research, laboratory, administration, parking uses and general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use, Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,

- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,
- Libraries,
- Social, recreational space and,
- Theater and,
- Athletic facilities.

Ryder Lot

The Ryder Lot site, consisting of approximately 17, 500 SF is located east of Ruggles Street and north of the Orange Line. Previously the site was used for parking but is currently used for construction staging. The University envisions a mixed-use building for the site to provide replacement space for trade shop and office uses from the Gainsborough Garage Lot site as well as general College and University uses, including but not limited to the following sub-uses:

- Cultural Uses--Art Use, Museum,
- Art Studio, Public art display space,
- Auditorium/ public assembly,
- Amusement game machines in noncommercial establishment,
- Classrooms,
- Fitness Center,
- Offices,
- Restaurant,
- Retail Business, Bank,
- Laundry,
- Eating facilities--cafeteria/ dining hall/ kitchen/ coffee bar,
- Outdoor café,
- Common areas/lounges/ coffee bar,

- Libraries,
- Social, recreational space and,
- Theater and,
- Athletic facilities.



List of University-Owned Properties

The University proposes to amend the IMP to update the list of university owned properties to include the following properties, which have been acquired since the adoption of the IMP in 2000. All of these properties will be included in the University's next IMP.

Table 1-7
Properties Acquired since 2000

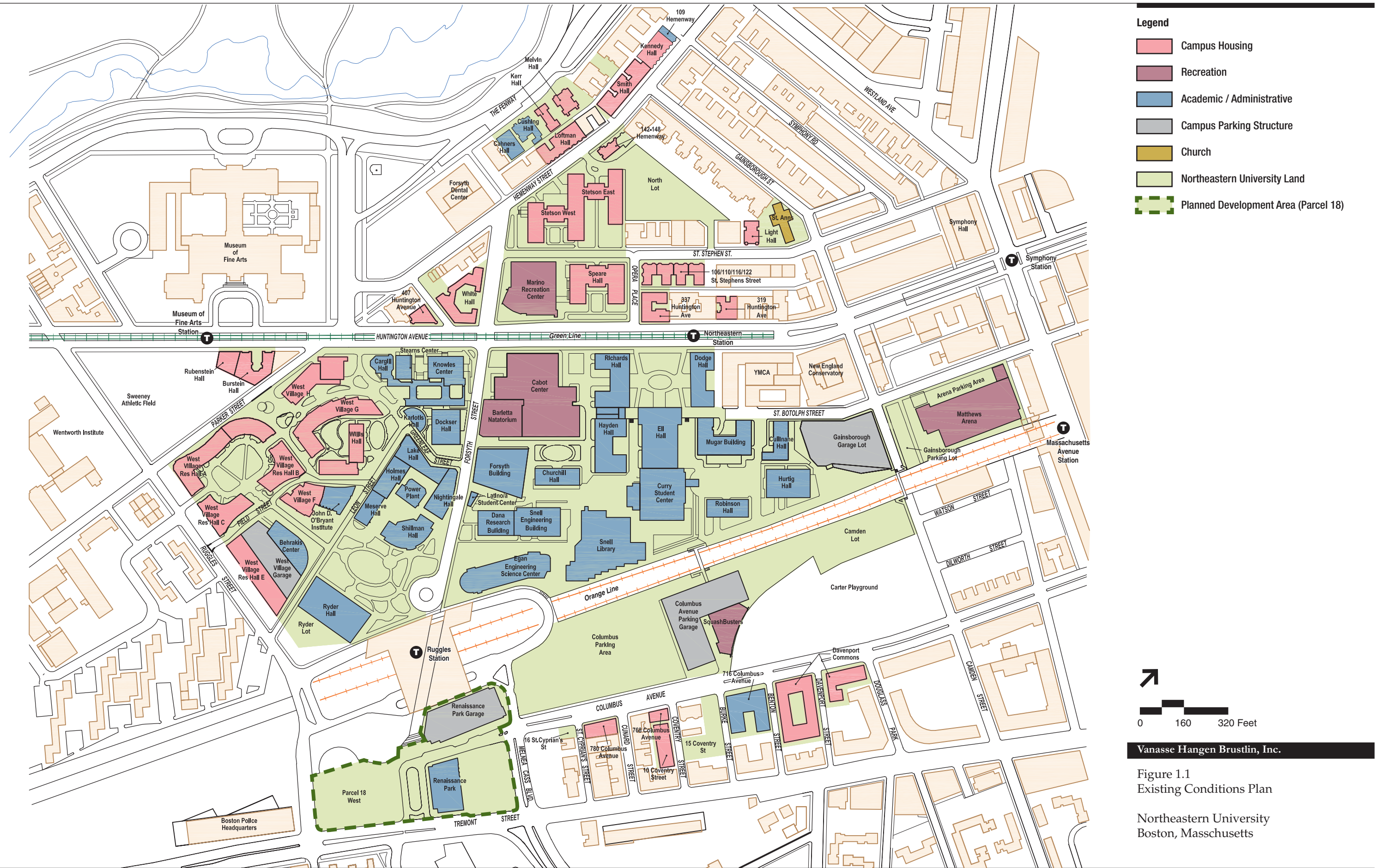
Address	Name	Current Use	Additional Future Use
10 Gainsborough Street	Gainsborough Garage	Parking Garage and Lot	Student Housing, General University, Performance Space, Parking, Retail, Office, Athletic Facilities, Recreation
	Gainsborough Lot	Parking Lot	Student Housing, General University, Performance Space, Parking, Retail, Office, Athletic Facilities, Recreation
77 St. Stephens Street	St Ann's Church	Church and Parking Lot	University Offices, Meeting Space, Performance Space, Cultural Space, Parking, Dining, Library
16 St. Cyprian's Street/ Columbus Avenue	Billboard Lot	Vacant Lot	General University, Office, Retail
109 Hemenway Street		Multi-Family Residential	General University, Academic, Office, Residential-Faculty and Graduate Housing
15 Coventry Street		Vacant Lot	Parking

Institutional Master Plan Team

Proponent	Northeastern University Office of Government Relations & Community Affairs 360 Huntington Avenue, 304CP Boston, Massachusetts 02115-5000 Contact: Robert Gittens, Esq., Vice President
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	<p>Public Affairs</p> <p>Jeffrey Doggett, Director Government Relations and Community Affairs</p> <p>Larry Brophy, Associate Director Government Relations and Community Affairs</p> <p>Joseph Warren, Ph.d Special Assistant to the Vice President Public Affairs</p>
Legal Counsel	<p>Northeastern University Office of the General Counsel 360 Huntington Avenue 115 Churchill Hall Boston, Massachusetts 02155</p> <p>Contact: Vincent J. Lembo, Esq.</p> <p>Edwards Angell Palmer & Dodge, LLP 101 Federal Street Boston, Massachusetts 02110 (617) 439-4444</p> <p>Contact: Kathryn Cochrane Murphy, Esq.</p>
Permitting and Transportation Consultant	<p>Vanasse Hangen Brustlin, Inc. 101 Walnut Street Watertown, MA 02472 (617) 924-1770</p> <p>Contacts: Howard Muise Felipe Schwarz, AICP Darlene Wynne</p>
Architect	<p>Kyu Sung Woo Architects Inc. 488 Green Street Cambridge, MA 02139 (617) 547-0128</p> <p>Contact: Lena Kozloski, AIA</p>
Master Planning Consultant	<p>Stull and Lee, Inc. 38 Chauncy Street</p>

	Boston, MA 02111 Contact: M. David Lee, FAIA
Geotechnical Consultant	Haley & Aldrich, Inc. 465 Medford Street, Suite 2000 Boston, MA 02129 Contact: Marya Gorczyca, P.E.
Infrastructure Consultant	Fay, Spofford & Thorndike, Inc. 15 Broad Street - 3rd Floor Boston, MA 02109 (617) 723 – 8882 Contact: David Mariano, P.E. George Protasowicki, P.E.



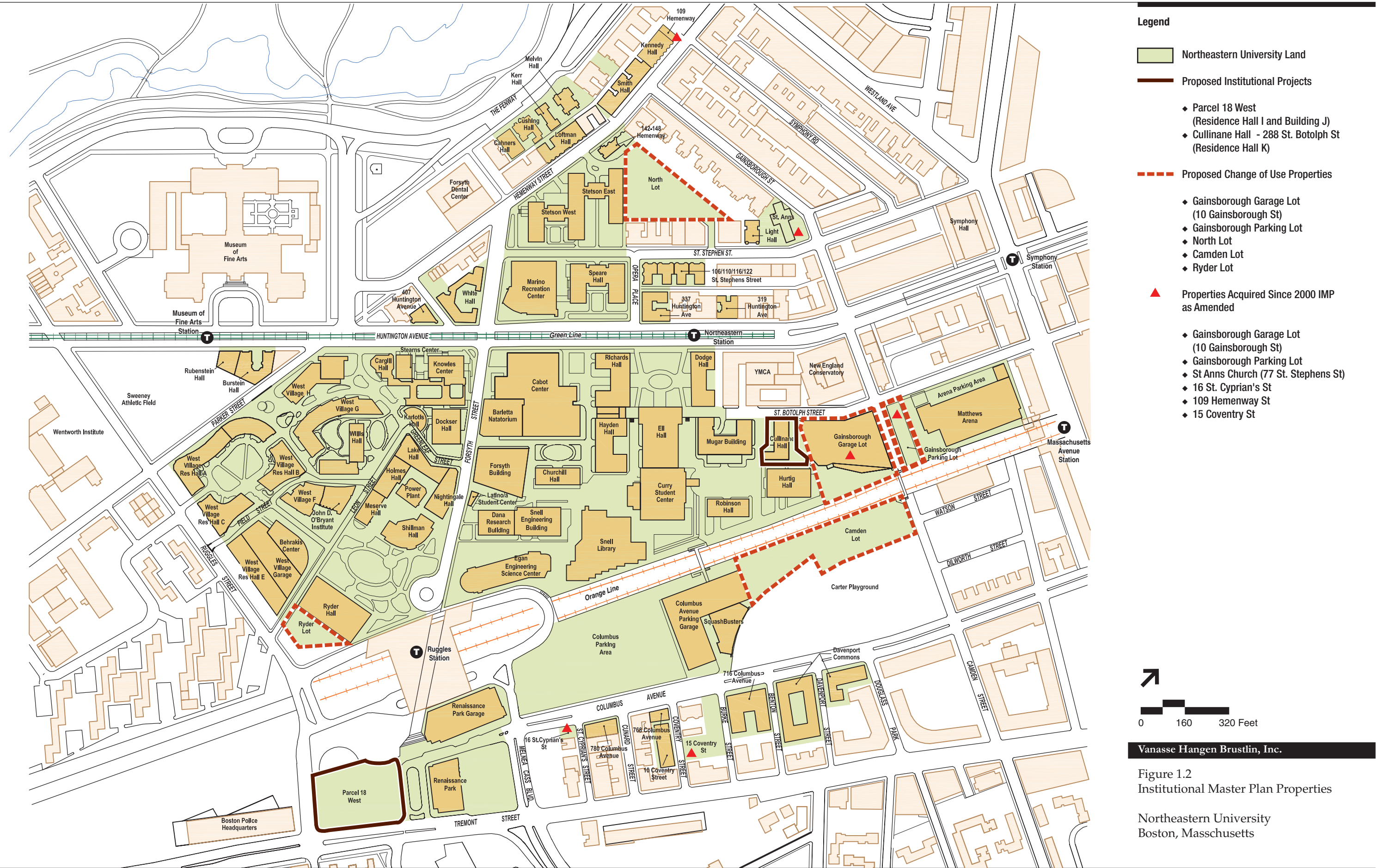


Figure 1.2
Institutional Master Plan Properties

Northeastern University
Boston, Massachusetts

Project Notification Form (PNF) Parcel 18 West Development

Introduction

Northeastern University (hereafter “the University”) proposes to develop the University-owned Parcel 18 West property located in the Roxbury section of the campus into the Parcel 18 West Development, an approximately 1,200-bed, 22-story student residence building and a six-story mixed-use building (the “Project”). Parcel 18 West, currently occupied with a 162-space surface parking lot, is located at the intersection of Tremont Street and Ruggles Street in Boston (the “project site”).

The University, based upon its agreement to the Community Task Force (“the Task Force”) process and the Task Force conditions regarding the future development of Parcel 18 West, will not interfere with economic development on other parts of Parcel 18; and the University will work with abutters of Parcel 18, and representatives of the Parcel 18 Task Force, Whittier Street BHA Development, Alice Taylor BHA Development, Madison Park Development and ROXSE Homes Development, on massing, community benefits and mitigation that is jointly agreed upon.

The Project, consisting of approximately 500,000 SF, is designed to accommodate approximately 1,200 beds for undergraduate students. The project will also include a full service dining facility, up to 5,000 SF of ground-floor retail space open to the general public, several study and media rooms, administrative offices, assembly rooms, common lounges on each floor and laundry facilities.

The Project is designed as two separate and different sized buildings. The larger building contains two 22-story towers connected via passageways and a 12-story structure, (“Residence Hall I”). The two towers are located on opposing north and south corners of the project site. The smaller building facing Tremont Street is six stories and contains a mixed-use program including ground-floor retail, classrooms, offices, and conference rooms on upper floors (“Building J”). The Project has strong access to the University’s Central campus because of the pedestrian connection over Ruggles Station.

Project Information

Table 2-1
Project Information Table

Project Name:	Residence Hall I and Building J
Site Location:	Tremont Street and Ruggles Street, Roxbury Northeastern University Campus
Current Property Owner:	Northeastern University
Project Proponent:	Northeastern University Office of Government Relations and Community Affairs 360 Huntington Avenue, 304CP Boston, Massachusetts 02115-5000 (617) 373-3168 Contact: Robert Gittens, Esq., Vice President Public Affairs Jeffrey Doggett, Director Government Relations and Community Affairs Larry Brophy, Associate Director Government Relations and Community Affairs Joseph Warren, Ph.d Special Assistant to the Vice President Public Affairs
Project Design Status:	Design Development of the Project is in progress.
Estimated Construction Cost:	\$180,000,000
Estimated Construction Commencement and Completion Dates:	Anticipated to commence in March 2007 and to be completed by late Summer 2009.
Public Financial Assistance:	The Project will be financed primarily through the proceeds of taxable or tax-exempt bonds issued by the Massachusetts Health and Educational Facilities Authority (HEFA).

Project Summary



Existing Conditions

The Project involves redevelopment of a parcel currently owned by the University and occupied as a parking lot. The project site sits at the corner of Ruggles Street and Tremont Street and is bounded by the Ruggles MBTA Orange Line Station to the northwest, Renaissance Park Garage to the north, and the Southwest Corridor Park and the Boston Police Headquarters Building to the southwest. Land south of the MBTA Orange Line is owned by various entities, including the City of Boston; Tremont Street serves as the University's shared border with the Roxbury community (See Figure 2.1).

The project site, consisting of approximately 57,222 SF, is a paved site and currently contains a parking lot accommodating an estimated 162 parking spaces. The project site is surrounded by a mix of uses, including parking, open space, housing and other institutions such as a school and Catholic Church. The project site is not just significant for the University; it also serves as a major gateway from Boston proper into Roxbury and vice versa.



Proposed Project

The Project is programmed as a residence hall for approximately 1,200 Northeastern students. The Project will consist of approximately 450,000 square feet (SF) of residential space, 45,000 SF of associated University uses including a full service dining facility, several study and media rooms, administrative offices, assembly rooms, common lounges on each floor and laundry facilities. The Project will also include 5,000 SF of retail use open to the general public. The program mix of residential space will be single rooms with a shared bath (See Figures 2.2 through 2.8 for a site plan, floor plans and building sections).

The Project conforms to the July 19, 2004 Memorandum of Agreement, ("MOA") between the University and the City of Boston to phase the University out of the Master Lease Property Program ("MLPP").

The Project also conforms to the Roxbury Strategic Master Plan ("RSMP"), a neighborhood plan which advocated for a high-density development with limited parking at this site and for improving connections to MBTA stations. The RSMP called the site "an excellent model of Transit Oriented Development" and the University intends for this Project to create more walking and public transit trips as a result of its proximate location and improve and enliven the pedestrian environment

to and from Ruggles Station. The 5,000 SF of retail uses on Tremont Street may include services geared towards residents, students and commuters.

Consistency with the Institutional Master Plan

The University's Institutional Master Plan notes that the University's strength and success as an urban campus is, in large part, the result of its strong sense of openness and connection to the City of Boston. This relationship with the surrounding community and the city at large is a strong tradition of the University. In support of this relationship, the Institutional Master Plan identifies its primary urban design goal as maintaining a balance between "an openness to the city and public access" and a "sense of threshold and image of the University."



Planned Development Area

The University is planning to construct new Residence Hall I and Building J on a portion of the Ruggles Center Planned Development Area (PDA), also known as Parcel 18. The portion of Parcel 18 on which the proposed Project is to be constructed is shown as Parcel 18 West on Figures 1.1 and 1.2. By this amendment the University seeks to include housing on Parcel 18 West in the IMP.

Urban Design Component

The Project has been designed to be a significant enhancement contributing to the immediate University surrounding, city neighborhoods, and the broader Boston metropolitan region. The project site is an important point of intersection between the campus and the city. The Project seeks to be an important gateway to the southern part of the University campus. This section discusses the relationship between the Project and its urban context, including the Project's contributions to the public realm, architectural compatibility, urban design features, and improvements to the pedestrian environment. A neighborhood context assessment and various plans and graphics illustrate the proposed building architecture, massing, and other major components.

As described previously, the Project consists of two separate buildings. Building J, which fronts on Tremont Street at the corner of Ruggles Street, will be six stories tall and accommodate ground-floor retail, offices, and conference rooms. Residence Hall I will range in height from 12 to 22 stories and house student residential units. One tower abuts Ruggles Street, facing the Boston Police Headquarters and the other tower abuts the access drive to the Ruggles MBTA Station. Residence Hall I will also contain several study and multipurpose rooms, common lounges and laundry facilities. Mechanical equipment will be located on the 22nd floor and in the basement.

The buildings within the Project are centered on a landscaped courtyard with pedestrian walks. The residential towers are accessed at two secured entries, one from Tremont Street and the other from Ruggles Street. The offices in Building J will be accessed from within the courtyard at the Tremont Street side of the project site. However, the retail will front on Tremont Street and will have operable doors accessible to the Roxbury community. A pass-through from the courtyard of the project site provides University users and Roxbury citizens with access to the Southwest Corridor Park.

The project site is also located a convenient and walkable distance to public transportation. Outdoor lighting will be designed to provide appropriate light levels for safety and comfort and will consider both use by the student residents and public circulation through the site.



Architectural Compatibility with Surrounding Structures

The design of the Project is sensitive to its surrounding context, creating a contemporary architectural image and replacing an existing surface parking lot that currently isolates the community from the main academic campus and contributes little to the surrounding urban fabric. The massing strategy for the Project provides a volume similar in scale to nearby Renaissance Park. The massing volumes vary to create a dynamic view; lower heights exist on Tremont Street facing the Roxbury community and in the 12-story building facing the extension of the Southwest Corridor Park. The two towers, although taller, are slim and present their shortest sides to the Roxbury community so as to minimize shadows cast and views obstructed. The Project marks the main path to Ruggles Station and creates a sense of entry to the University campus from this southern point (See Figure 2.9, Site Model Photographs). The architecture of the Project will provide the following benefits:

- Complementary massing with the existing Renaissance Park;
- Building massing which enhances and further defines the Southwest Corridor Park, a large community park southwest of the site;
- Setbacks along the northwest edge of the site provide a buffer between the new development and the existing open space and pedestrian pathways; and
- Enhancement of Ruggles Street as an important pedestrian gateway to the southern part of the campus.



Enhancing the Urban Design Features of the Neighborhood

The project site of the proposed Project is an important point of intersection between the campus and the city. The Project seeks to be a gateway at the southern part of the campus and the building design balances a sense of openness to the community with a sense of threshold to the campus. The towers will become a prominent landmark for this area and will visually connect with the University's Building H tower on the northern side of the campus. The Project will enhance the urban design of the surrounding neighborhood in a number of important ways, including:

- Create a contemporary, strong, and elegant architectural statement. The views of the building and the property edge along the MBTA commuter line will create an appropriate urban marker for this important threshold to the campus.
- Replace an existing surface parking that currently does not contribute to the urban fabric of the community. The Project will further define the area adjacent to the Southwest Corridor Park and will greatly contribute to the visual character of this area.
- Reduce the impact of the MBTA noise levels on the Roxbury community as the building may provide a noise buffer.
- Minimize the shadow impact on adjacent neighborhood lots due to the site location just south of the MBTA tracks and the long, narrow configuration of the building tower.
- Increase pedestrian activity and interaction between the campus located on the southern side of the commuter tracks and the main campus, enlivening this area of the campus and the Roxbury community.



Consistency with Design Guidelines

The design of the Project is consistent with the principal planning guidelines established in the Institutional Master Plan. Development of the project site reassures the University's continued commitment to the southern edge of the campus, improving the quality of the Tremont Street edge and providing a major threshold to the campus. This follows the philosophy of making Tremont Street a front door welcoming the Roxbury community. The proposed building will present an important image to the city while simultaneously welcoming the public into the campus. Additionally, the project provides the following:

- An increase in on-campus housing to provide a higher ratio of students living on campus.
- A contemporary and dynamic architectural statement that responds to the site's context and creates an important marker to the southern edge of the University campus.

- A residential environment that encourages and reinforces interaction among students. Program spaces within the residence hall include meeting and common lounge spaces as well as dining and retail facilities.
- An improved pedestrian environment by providing active retail uses on Tremont Street.
- Safe and efficient vehicular access with no parking on the project site.
- An enhanced pedestrian environment along Ruggles and Tremont Streets, across the MBTA subway tracks, and across the MBTA corridor.
- Proper screening of all mechanical equipment.
- Signage to be approved by the BRA through Comprehensive Sign Design Review.



Pedestrian Connections and Environment

The Project will greatly enhance the pedestrian environment along Ruggles Street and Tremont Street, creating a stronger pedestrian connection between Roxbury and the MBTA Orange Line Station as well as downtown Boston. The Project will contribute to an improved, safer pedestrian environment in the following ways:

- Outdoor lighting will be designed for both student and public circulation through the site, providing appropriate light levels for safety and comfort.
- The Project's proximate location just south of the main campus will facilitate the resident population's walking to the main academic and administrative buildings. The site is also conveniently located within a walkable distance to public transportation.



Conclusion

The Project is designed to be a major contributing neighbor to the Roxbury community as well as the larger Boston region. Each of the major elements of the Project is designed to enhance the public realm and contribute significantly to this part of the city, making it a more vital place to live, visit, and work. The University and its design team are committed to continue working with the BRA, other City of Boston agencies, and the local community to further improve the project design and ultimately develop a new defining landmark for both the University and the City of Boston.

Environmental Protection Component



Wind

The University will conduct a quantitative wind analysis to analyze the impact of this project on pedestrian-level wind conditions at Tremont Street, Ruggles Street, the entrance to the MBTA Ruggles Station and the Southwest Corridor Park.



Shadow

The Project is designed and sited to minimize shadow impacts on neighboring lots. The University will conduct a shadow study to determine the shadow cast from this project, specifically the two towers, on the nearby Roxbury neighborhood, the Southwest Corridor Park, and other nearby uses.



Daylight

The University will conduct a daylight analysis to analyze the amount of daylight potentially obstructed by this Project.



Solar Glare

The building design may include glazing. Therefore, the University will conduct a solar glare analysis to determine the level of glare resulting from the project design.



Air Quality

The Project is expected to generate fewer trips to the site than the current parking use. Therefore, there will be no long-term impact on air quality from traffic associated with the project. Short-term air quality impacts from fugitive dust may occur during construction. Mitigation methods such as wetting down and removal of

excavate from the site by covered trucks will be used as necessary to help control construction dust



Water Quality

The project site is an existing parking lot with minimal landscaped areas. The site is relatively flat and poses no topographic problems in construction. To ensure that all applicable water quality requirements are met, the University and its consultants will work with the Boston Water and Sewer Commission (“BWSC”) through the design process to identify appropriate alterations to the existing stormwater drainage system on the project site which will have a positive impact on water quality. The University continually works to improve the existing sanitary sewer system through repair and updating of University connections to BWSC’s collection system. The University and the BWSC are committed to working together in developing an appropriate dye-testing program to map out connections and identify facilities needing attention.

The University will continue working with the BWSC to develop strategies for managing flows and improving the quality of stormwater discharge from the University campus as a whole. The University has been a leader in returning the urban hardscape to a more absorbent natural green space wherever possible and will continue this practice with the Project. The University employs best management practices to remove and dispose of materials from catch basins and/or particle separators at least once a year in order to reduce particulate matter from flowing to the Charles River. Oil/Water separators and kitchen grease traps are also routinely cleaned to prevent oils from flowing into sanitary systems that lead to wastewater treatment facilities.



Flood Hazards/Wetlands

The project site is located entirely within Zone C, areas of minimal flooding with elevations above the 100-year flood benchmark, according to the *Federal Emergency Management Agency Flood Insurance Rate Map for City of Boston, Massachusetts*. The project site contains no wetland resource areas.



Historic Resources

Based on a review of the March 2004 State and National Registers of Historic Places, list of designated Boston Landmarks and the 2004 Northeastern University Preservation Plan (the “Preservation Plan”), the nearest historically significant properties to the project site are:

- Greek Orthodox Cathedral of New England, 520 Parker Street
- Boston Young Men's Christian Association,
312-320 Huntington Avenue
- New England Conservatory of Music – Jordan Hall,
290 Huntington Avenue
- Olmsted Park System, Back Bay Fens
- The Riviera, 270 Huntington Avenue
- Students House (Kerr Hall), Northeastern University, 96 The Fenway
- Isabella Stewart Gardner Museum, 280 The Fenway
- Symphony Hall, 301 Massachusetts Avenue
- Horticultural Hall, 300 Massachusetts Avenue
- The New Riding Club, 52 Hemenway Street

In addition to these properties, the Museum of Fine Arts and many buildings on Parker Street, Columbus Avenue, and in the East Fens neighborhood are included in the Massachusetts Historical Commission's *Inventory of Historic and Archaeological Assets of the Commonwealth*. According to the Preservation Plan, 798 and 780 Columbus Avenue were listed as contributing resources to the Lower Roxbury Historic District in 1994. In addition to being listed on the National Register of Historic Places, the New England Conservatory of Music and Symphony Hall are designated as National Historic Landmarks.

The nearest significant historic districts to the project site are the Lower Roxbury Historic District and the National Register-listed Frederick Douglass Square Historic District, the South End Historic District and Boston Landmark District, Saint Botolph Street Area Architectural Conservation District, and Fenway-Boylston Street Historic District.

In the 2004 Preservation Plan, the University committed to comply with regulations by filing under the Boston Zoning Code, Chapter 254, MEPA and Section 106 for current or future projects, when applicable. These filings will require the University to identify historic resources that may be affected by the Project by referring to the Plan and mitigate any adverse effects. No historic sites are located within 1,000 feet of the project site. The site is within approximately 500 feet from the Lower Roxbury Historic District. The construction of the proposed Project will be sensitive to the nearby historic resources.



Groundwater/Geotechnical

Groundwater

Groundwater monitoring wells were installed at the site during previous subsurface investigations completed in 1988 and 1989. The wells are no longer present.

Measurements obtained at the time indicated groundwater levels ranging from 12 to 22 feet below site grades corresponding to El. 4 to 8 feet Boston City Base datum (BCB). More recent groundwater level measurements have been obtained by the Boston Groundwater Trust (BGWT), at groundwater monitoring wells located east of the project site along Columbus Avenue and Tremont Street. These wells indicate groundwater elevations range from approximately 6 to 10 feet BCB. The data is more or less consistent with groundwater data collected in 1988 and 1989. Site groundwater levels will fluctuate naturally due to seasonal variation in such factors as precipitation and temperature.

Temporary construction dewatering will be required to dewater basement excavations and conduct foundation construction in the dry. The proposed basement depth of 12 feet is at or above site groundwater levels. Therefore, dewatering is expected to be limited to control of surface water run off into excavations. Consistent with other new construction on the University Campus, any below grade construction will be designed to not impact area groundwater levels.

Groundwater Conservation Overlay District

The Project is not located within the Groundwater Conservation Overlay District and specific zoning requirements are not applicable. However, as discussed above, design requirements will be developed so as not to negatively impact, by potentially lowering, area groundwater levels.

Geotechnical

Numerous previous test borings have been completed at, or in the immediate vicinity of, the project site for previous development studies. These test borings were drilled to depths ranging from 28 to 145 feet below existing ground surface elevations to define subsurface conditions. Based on the available subsurface information, the following general soil profile is anticipated:

Table 2-2
Soil Profile

Generalized Description	Depth to Top of Layer (ft)	Thickness of Layer (ft)
Fill	--	5.0 to 23.0
Organic Silt & Peat	7.0 to 23.0	5.5 to 10.0
Sand	5.0 to 24.0	3.0 to 39.0
Marine Clay	11.0 to 63.0	> 75
Outwash Sand	75.6 to 113	12.0 to 19.4
Glacial Till	120	15

Bedrock	135	--
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Considering that the proposed structures will be 6 to 22 stories, it is anticipated that deep pile foundations, extending to glacial till or bedrock at depths of greater than 100 feet, will be required for the heavier structures while short pile or footings may be feasible for the 6 and 12 story buildings. Foundation design studies will be completed to determine appropriate foundation systems.



Solid/Hazardous Waste

Previous environmental studies conducted at the project site in the late 1990s identified elevated levels of chemical constituents associated with historic industrial site usage and gas and service stations located at the project site and adjacent areas. Excavated soils are anticipated to require special handling and disposal during construction. Excavated material will be transported to off-site facilities in accordance with applicable local, state, and federal laws and regulations. No recent investigations have been conducted to confirm or update the status of existing environmental conditions. Chemical testing of soil and groundwater is planned to characterize material at the appropriate stage of the design process to further evaluate site environmental conditions and soil management requirements.



Noise

Noise will be generated during the construction phase of the Project by activities such as construction traffic, excavation and foundation work, and the operation of construction equipment. Construction noise levels will comply with applicable state and City of Boston noise regulations. The operation of the completed facility may result in a minimal increase in ambient noise levels due to HVAC and exhaust equipment. It is expected that the Project will not result in any significant increase in ambient noise levels on the project site or adjacent properties.



Rodent Control

In connection with demolition, utility relocation, or other construction activities, the University or a licensed pest control service will conduct an inspection of the project site to evaluate the risk of rodent displacement. The University will implement a program of preconstruction control and eradication as necessary, based on the results of the site inspection. Routine maintenance of trash containers and removal of waste from the site will be required.

Wildlife Habitat

The project site is currently built out and is located within a fully developed urban area. The University is not aware of any rare or endangered species or any ecologically significant plant community which may be affected by the Project. *The Massachusetts Natural Heritage Atlas (1997 Edition)* shows no threatened or endangered species in the campus area.

Transportation

The 2000 Institutional Master Plan evaluates an array of campus-wide transportation issues and provides a series of mitigation measures. This evaluation was based on plans to develop several new buildings on the University campus and to provide a substantial reorganization of the campus parking supply. Overall, the new building projects described in the IMP result in a decrease in trip generation for the campus and a shifting of University-related traffic on surrounding roadways. The IMP also outlines a transportation mitigation plan designed to offset the potential traffic impacts of the master plan projects and to provide an overall reduction in the transportation demand, especially traffic, generated by the University.

With the proposed development of the Project, the amount of on-campus housing will increase and trips to and from the campus will decrease from the number projected in the IMP. As a result, the Project is not expected to have any substantial transportation impacts and no additional mitigation is anticipated to be necessary.

The followings sections provide a brief summary of the transportation analysis contained in the IMP and describe how the current program for the Project impacts that analysis.

IMP Transportation Analysis Summary

Transportation planning was a significant component of the IMP filed by the University. Existing traffic conditions were evaluated at over 30 intersections surrounding the University. Existing conditions assessments of on-street and off-street parking, public transit service, bicycle and pedestrian access, loading, and service and emergency access were considered in the IMP transportation analysis. In addition, the IMP included a detailed analysis of campus demographics and travel patterns. The demographic analysis included:

- Student enrollment,

- University employment,
- Campus trip generation,
- Mode splits for commuting trips, and
- Traffic arrival/departure patterns.

The existing conditions analysis in the IMP formed the basis for estimating the future transportation impacts of the Master Plan development program. The Master Plan projects are intended to improve the University's facilities and to improve the operation of the transportation system serving the campus in three distinct ways:

- Development of over 2,000 student beds to increase the number of students living on the campus, thereby reducing the need for students to travel to and from the campus during peak commuting hours;
- Improvement of the pedestrian pathways and landscaping throughout the campus to encourage walking; and
- Reducing and consolidating the University's parking supply from many smaller facilities into few larger facilities to provide easier and more direct access from regional roadways.

The IMP developed No-Build and Build future scenarios for both 2005 and 2010 based on projections of enrollment, staffing and the mixture of residential and commuting students for those two horizon years. Analyses of traffic, parking, pedestrian and bicycle patterns, public transit, loading, and service access were conducted for both horizon years.

The Master Plan included construction of approximately 2,270 new beds on campus by 2010, including Building A which came on line in 1999. The first amendment to the IMP (Residence G and Building H) increased the projected number of beds by 330. These additional beds came on line in the fall of 2004. This increased the total new bed count to approximately 2,600. With relatively stable enrollment, these new beds increased the proportion of students living on-campus and reduced the number of students commuting to the University on a daily basis. The Residence G and Building H Project accelerated the University's construction of student housing and increased the total number of beds constructed.

A second amendment to the IMP was made for Building F which resulted in an additional 229 new student beds, bringing the number of new beds to more than 2,989. This building will come on line this fall (2006) and complete the proposed housing expansion envisioned by the IMP four years ahead of the 2010 schedule included in the IMP.



Proposed Development Program

The Project will be part of the Third Amendment to the IMP and includes developing the Parcel 18 West site with university uses, including housing, a dining facility, administrative offices, and meeting space. It will also include a small amount of retail space open to the public. The administrative offices will provide replacement space for uses relocated from Cullinane Hall site to allow construction of a residence hall on that site. For the year 2010 transportation analyses included in the IMP, the Project site was assumed to be parking. As currently proposed, the Project will provide an additional 1,200 beds of on-campus student housing.



Trip Generation

Estimates of trip generation were developed for the 2010 Build Conditions in the Institutional Master Plan. Those estimates were based primarily upon the following three characteristics of the University:

- Projected employment (faculty and staff),
- Projected enrollment (student population), and
- Mixture of resident and commuting students.

As described in the IMP, a campus-wide increase of approximately five percent in staff and a negligible increase in faculty were projected for 2005. Staff and faculty numbers were expected to remain stable from 2005 to 2010. Overall student enrollment was forecast to increase by 4 percent by 2005 and remain stable between 2005 and 2010. The projected increases in staff and students result in small expected increases in trip generation for the campus. However, these small increases in trip generation due to staff and student increases were expected to be more than offset by the shift of more than 2,200 students from living off campus to living on campus. As noted above, the 2,899 students shifted from living off-campus to living on-campus. This changing mixture of residential and commuting students and resultant increase in the percentage of students living on campus is expected to reduce student travel to and from the campus.

The Project, with an additional 1,200 student beds, will provide on-campus housing units beyond what was envisioned in the IMP as previously amended. Acceleration of housing construction at the University will result in lower trip generation for the campus than projected in the IMP for 2010.

Table 2-3 presents the trip generation for the campus as projected in the IMP and revised estimates reflecting the current program for the Project. When combined with Building G, H and F changes, the Project reduces vehicle trips by approximately 670 on a daily basis, 74 during the morning peak hour, and 67 during the evening

peak hour. Combined with the proposed development of 600 beds on the Cullinane Hall site, the reduction of vehicle trips is even greater with about 98 fewer vehicles in the morning peak hour, about 89 fewer trips in the evening peak hour, and 890 fewer trips on a daily basis. These reductions are a function of the decreased dependency on the use of automobiles for students living on campus.

The changes in the building program are not anticipated to change the employee trip generation characteristics of the campus. The only major programmatic difference between the IMP program and the currently proposed program is the number of students housed on campus. It is important to note that the estimates shown in Table 2-3 reflect external trips to and from the campus. The proposed project will generate additional internal trips beyond those shown in the table. The vast majority of these additional internal trips are expected to be walking trips to and from other points in the campus.

Table 2-3
Campus Person Trip Generation by Mode

Time Period/Mode	IMP 2010 Scenario	With Amendments 1 and 2 ¹	With Parcel 18 and Amendments	Change from IMP 2010 Scenario	With Parcel 18 and Cullinane	Change from IMP 2010 Scenario
<i>Daily</i>						
Drive Alone	11,420	11,190	10,750	-670	10,530	-890
Carpool	1,840	1,790	1,670	-170	1,620	-220
Transit	12,700	12,220	11,190	-1,510	10,680	-2,020
<u>Walk/Bike</u>	<u>4,480</u>	<u>4,170</u>	<u>3,520</u>	<u>-960</u>	<u>3,190</u>	<u>-1,290</u>
Total	30,440	29,370	28,250	-3,310	26,020	-4,420
<i>Morning Peak Hour</i>						
Drive Alone	1,029	1,004	955	-74	931	-98
Carpool	168	163	153	-15	148	-21
Transit	1,147	1,099	998	-149	947	-200
<u>Walk/Bike</u>	<u>409</u>	<u>381</u>	<u>322</u>	<u>-87</u>	<u>292</u>	<u>-118</u>
Total	2,753	2,647	2,428	-215	2,428	-437
<i>Evening Peak Hour</i>						
Drive Alone	1,142	1,119	1,075	-67	1,053	-89
Carpool	184	179	167	-17	162	-22
Transit	1,270	1,222	1,119	-151	1,068	-202
<u>Walk/Bike</u>	<u>448</u>	<u>417</u>	<u>352</u>	<u>-96</u>	<u>319</u>	<u>-129</u>
Total	3,044	2,937	2,825	-331	2,602	-442

¹ Buildings G, H and F



Parking

The proposed project will eliminate a parking lot with 162 spaces that is used by the Boston Police Department for their headquarters building across Ruggles Street. The Project will not provide any replacement parking.

Based on the projected shift of 1,200 commuting students to resident student status, the demand for parking on the campus is expected to decline. It is expected that the demand for daytime parking permits will decline by 100 and the demand for overnight permits will increase by 80. The result is a net reduction of 20 spaces in overall parking demand.

Changes in parking demand were estimated from registration rates for resident and commuter students based on parking permit information supplied by the University. The residence hall on Parcel 18 West will house upper class students and resident

assistants. Consistent with University parking policy, students living in Residence Hall I will be permitted to purchase on-campus parking permits. To keep a car on-campus will require purchase of both a daytime permit and an overnight permit.



Public Transit

The campus is well served by public transit with direct access to the Orange Line at Ruggles station and the Massachusetts Avenue station and the Green Line at the Northeastern stop. Additionally, the University is served by the Commuter Rail at Ruggles station. Several bus routes also provide transit service to the campus. The Project is not expected to affect transit services in the vicinity of the campus. As described in the Trip Generation section, no additional demands are expected to be placed on public transit facilities and services as a result of this Project, individually or as a result of the overall IMP development program. In fact, the Project and overall IMP development program are expected to reduce the University's demand for transit services.



Pedestrian Circulation and Bicycle Access

As described in the Trip Generation section, the Project will result in an increase in internal pedestrian traffic, principally between the site and other parts of the campus. The increased trips will be predominantly walking trips given the proximity of the site to the main academic and administrative buildings and Ruggles station. Pedestrians will use the existing concourse at Ruggles station to cross the MBTA tracks to reach the administrative, academic and athletic buildings on campus. As described in the Transportation Access Plan Agreement entered into by the University and the City of Boston, the University will install bicycle racks as needed by students in the Project.



Loading and Service

An off-street loading and trash pick-up area will be located at the northeasterly end of the building on the ground level.



Transportation Demand Management

The Institutional Master Plan included a comprehensive transportation mitigation program for the campus, and the University is pursuing the mitigation items as described in the IMP and in the Transportation Access Plan Agreement entered into with the City of Boston. The Project, as currently proposed, will not result in any

additional transportation impacts beyond those considered in the IMP. The IMP provides a great deal of information on the University's mitigation program. Below are some of the key highlights:

- On-site sale of MBTA passes,
- Pre-tax purchase of MBTA passes for employees,
- Employee MBTA pass subsidy,
- Operation of a commuter services office,
- Ride-matching program,
- Alternative work week during summer months,
- Limited overnight parking for residential students,
- Pedestrian and bicycle enhancements throughout the campus, and
- Traffic and roadway improvements at several area intersections.

The University monitors the usage of its parking facilities and collects data relating to on-campus sales of MBTA passes for its employees and students.



Move-in/Move-out Traffic Management

The University described its move-in/move-out operations in the IMP Supplement issued in May 2000. The University has in place a comprehensive and well-managed student move-in program, which has been reviewed and enhanced over time by a committee composed of staff from Residential Life, Public Safety, Building Services, and Dining Services. In general, procedures for student move-out are less formalized as the move-out period extends over a longer period resulting in lower concentration of activity.

The typical fall move-in takes place over a five-day period in mid-September. To help alleviate congestion on neighborhood streets and process students efficiently, the committee developed a staging plan requiring students to report to specific parking lots where they are processed and sent in manageably-sized groups over a designated route to their residence halls. This process has been used with success and enhanced since 1999.

Additionally, the University's Public Safety Division works closely with the Boston Police Department and the State Police to provide sufficient police coverage at the major intersections impacted by move-in to aid in traffic flow. The University also works with the Boston Transportation Department to bag parking meters and reserve space at key locations to assist with traffic movement. Neighborhood residents are made aware of fall move-in by written and verbal communication from the Office of Government Relations and Community Affairs and, for convenience, are offered on-campus parking on those days in lieu of parking on local streets.

Construction Management

Construction of the Project is expected to take approximately 28 months. Off-site construction impacts will be primarily limited to adjacent property owned by Northeastern, and construction activities will be managed to minimize traffic, noise, and air quality effects. Methods of minimizing construction impacts on University activities and the public include segregation of the project site from the rest of the campus and routing of construction traffic to avoid residential areas.

The University has considered the potential for short-term construction-related transportation impacts during the development of the Project, including construction vehicle traffic and parking. The University will submit a Construction Management Plan to the Boston Transportation Department (BTD) addressing these issues.

Construction activities will be limited to the project site to minimize impacts on University operations, except those activities necessary for utility connections. Fencing and barriers will be provided to segregate the construction site, which should provide adequate area for staging and construction. No unusual construction methods are anticipated, and therefore there should be no significant effect on areas outside the site.

As necessary in the course of the City's review of the Project, the University and its contractors will work with the Boston Transportation Department to develop and implement a Construction Management Plan (a "CMP") to minimize construction-related impacts.

Construction Vehicle Traffic

Construction vehicle traffic will be controlled in accordance with applicable regulations and procedures, and is not expected to significantly impact the capacity of streets in the area. The University will work with its construction contractors to minimize noise and other disturbances associated with construction traffic. It is anticipated that major arterial streets such as Melnea Cass Boulevard, Tremont Street, and Columbus Avenue will be used as construction traffic routes to the site. Trucks will be routed to avoid residential areas to the extent possible.

To control emissions on campus, "No Idling" signs have been installed at numerous locations across the campus. Signs are presently installed at the loading docks at 716 Columbus Place, Speare Hall, the Forsyth Building, Mugar Life Sciences Building, Curry Student Center, and Nightingale Hall, to name a few. Several of the University's maintenance vehicles have been converted to compressed natural gas to reduce emissions and to promote alternative technologies.

Parking

The number of construction workers on-site will vary depending on the construction activities being performed. It is expected that an average of 100 construction workers will be on-site at any given time during construction. During the busiest construction periods, the number of construction workers on-site could exceed 130. The University will require its construction contractors to make arrangements for transportation for workers to the site, including public transportation to the extent possible, and to restrict workers from bringing cars to the campus area. No parking will be provided for construction workers on campus.

Pedestrian Access

Measures will be implemented for the safety of pedestrians walking near the site during construction, including protective fences or other barriers around the construction site and replacement walkways, if necessary. Appropriate lighting will be provided.



Conclusion

The Project will result in less traffic on the campus than was envisioned in the development of the IMP. Construction of residence hall space will reduce the need for students to commute to the campus. The proposed housing will also reduce the demand for parking on-campus.

Infrastructure



Introduction

This section evaluates the infrastructure systems that will support the Project. Based on initial investigations and consultations with the appropriate agencies, utility companies, and University officials, all existing infrastructure systems are adequately sized to accept the incremental increase in demand associated with the development and operation of the proposed Project. The following utilities are evaluated: wastewater, water, stormwater management, private steam, natural gas, electricity, and telecommunications. In addition, consideration is given to the sustainable elements of the energy supply provision for the Project.

The final design process for the Project will include all required engineering analyses and will adhere to all applicable protocols and design standards, ensuring that the buildings are properly supported by, and in turn properly use, the City's infrastructure. Detailed design of the Project's utility systems will proceed in

conjunction with the design of the buildings and interior mechanical systems. The building will connect to existing City and utility company systems in the adjacent public streets.

The systems discussed below include those owned or managed by the Boston Water and Sewer Commission (BWSC), the Massachusetts Water Resources Authority (MWRA), the Massachusetts Bay Transportation Authority (MBTA), private utility companies, and university-owned systems. There will be close coordination with these entities by the project engineers and architects during the design process and subsequent reviews.

All improvements and connections to BWSC infrastructure will be reviewed by the agency as part of its site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of project demands and system capacity, and establishment of service accounts. All improvements to the University-owned systems, including steam and telecommunications, will be coordinated with the Northeastern University Physical Plant.

Regulatory Framework

This section describes existing and future infrastructure connections and discusses the regulatory framework of utility connection reviews and standards. All connections will be designed and constructed in accordance with City, State and Federal standards.

- In the City of Boston, the BWSC is responsible for all water, sewer, stormwater systems and site plan approvals.
- A Sewer Connection Permit from the Massachusetts Department of Environmental Protection (DEP) will be required.
- The Boston Fire Department will review the Project with respect to fire protection measures such as siamese connections and standpipes.
- Design of the site access, hydrant locations, and energy systems (gas, steam, and electric) will also be coordinated with the respective system owners.
- New utility connections will be authorized by the City of Boston Public Works Department through the street opening permit process, as required.
- Construction over the existing 120-inch Boston Main Drainage Tunnel will require an 8M Permit Application filled out for the MWRA's approval.

Additional information on the regulatory framework for each utility system is included in the following sections.

Wastewater System

Existing Conditions

Campus sanitary sewage is currently discharged into BWSC sewer mains in Ruggles Street, Parker Street, Forsyth Street, St. Stephen Street, Hemenway Street, Huntington Avenue, and Columbus Avenue. Sanitary sewage from these sewers is conveyed to the MWRA system for treatment. The site currently is used for parking only and has no sanitary sewer connections.

Projected Demand/Use

The Project's sewage generation rates were estimated using the Massachusetts State Environmental Code (Title 5) at 310 CMR 15.203. This reference lists typical generation values for the sources listed in Table 2-4. As shown in Table 2-4, the project will have average daily flows of approximately 86,750 gpd of sanitary sewage.

Table 2-4
Sewage Generation

Use	Number	Rate	Total gpd
Student Beds	1,200 beds	65 gpd/bed	78,000
Retail	5,000 SF	50 gpd/1,000 SF	250
Dining Facility	300 seats	15 gpd / seat	4,500
Laundry Facilities	10	400 gpd/washing machine	4,000
Total			86,750 gpd

Proposed Connection

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connection to the sewer system. In addition, the proponent will submit a General Service Application and site plan for review as the project progresses. The Project will generate new wastewater flows exceeding 15,000 gallons per day which will require filing of a Sewer Connection Permit with the Massachusetts DEP.

The sewer service for the Project will tie into either the 12-inch sewer in Ruggles Street, the 10-inch sewer in Tremont Street, or the 36-inch sewer main located in Columbus Avenue Extension.

It is likely that the Project will require Infiltration/Inflow (I/I) mitigation 4:1 ratio for the estimated sewage flow as part of the BWSC Order of Conditions. The project will be required to mitigate 347,000 gallons from the BWSC's sewerage system.



Domestic Water and Fire Protection

Existing Water Supply System

Water for the site is provided by the BWSC. There are five different water systems within the city, and these provide service to portions of the city based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high.

Record test data containing actual flow and pressure was obtained from the BWSC for hydrants within the vicinity of the project. The test results, provided in Table 2-5, indicate there is adequate flow and pressure in the area of the project site to service the proposed Project. The results of the hydrant flow test indicate the actual amount of water (flow) available and the actual pressure (residual) flow provided. These numbers are analyzed to establish the quantity of water that will be delivered at 20 psi.

As the project progresses, a request shall be made to the BWSC to provide an up to date hydrant flow information. BWSC will require a fee associated with the hydrant flow test. This will be necessary to support the BWSC and Building Permit reviews.

Table 2-5
Hydrant Flow Results

Date	Location	Static Pressure (psi ¹)	Residual Pressure (psi)	Total Flow (gpm ²)	Flow (gpm) @ 20 psi
7/27/93	590 Columbus	60	54	3,723	--
2/11/93	772 Columbus	56	49	2,795	6,768
11/10/98	165 Hemenway	65	58	3,095	8,452

- 1 psi = pounds per square inch
 2 gpm = gallons per minute

Water Demand

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 is applied to the average daily wastewater flows to estimate an average daily water demand. This factor accounts for consumption and other miscellaneous losses. The Project will require approximately 95,455 gallons of water per day. The water will be supplied by BWSC.

Proposed Connection

Domestic water service connections required by the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connections will be reviewed as part of BWSC's Site Plan Review Process. This review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and BFD requirements.

The Project will be serviced by the BWSC's low service system located in Columbus Avenue Extension between the project and the Renaissance Park. Both domestic and fire protection will connect to the 12-inch low service system.



Stormwater Management

Since the project site is currently a parking area and already has significant coverage with impervious surfaces, construction of the Project will not produce significant changes in either the pattern or rate of stormwater runoff. Stormwater management controls will be established in compliance with BWSC standards and the Project will not result in an increase of any peak flows, pollutants, or sediments that would potentially impact the receiving waters of the local BWSC stormwater drainage system.

Existing Conditions

The existing Parking Lot is impervious to rainfall percolation. The property is serviced by catch basins that discharge into the 18-inch line which ultimately ties into a 24-inch drain in Columbus Avenue Extension.

Proposed Conditions

Construction of the proposed Project will not produce significant changes in the rate of stormwater runoff from the site. The overall impervious surface will be reduced

on the site. This will allow for the potential of reducing discharge rates into the system. Additionally the project will improve the quality of water discharged by eliminating parking, which will reduce grit and oil introduced into the system. Area drains and catch basins will be used in the landscaped areas and sidewalks to capture stormwater runoff.

As part of BWSC's review process, the project will identify appropriate measures such as detention and reuse of stormwater wherever applicable to minimize flows from the site.

Stormwater management controls will be established in compliance with BWSC standards, and the Project will not introduce any increased peak flows, pollutants, or sediments that would potentially impact the Charles River (the receiving body of water). In conjunction with the site plan and the General Service Application, the proponent will submit a stormwater management plan to the BWSC. Compliance with the standards for the final site design will be reviewed as part of the BWSC Site Plan Review Process.

Compliance with DEP Stormwater Management Policy

The Project involves the redevelopment of a previously developed site. Standard 7 of the Stormwater Management Standards states: "Redevelopment of previously developed sites must meet the Stormwater Management Policy to the maximum extent practicable. However, if it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions." To demonstrate the ways in which the Project will be consistent with the Stormwater Management Policy, a discussion of each Stormwater Management Standard follows:

Standard #1: Untreated Stormwater

The Project will treat the runoff contributed by plazas and driveway areas through appropriate stormwater measures. DEP Management Standards identify rooftop runoff (except certain metal roofs) as uncontaminated for the purposes of the Stormwater Management Standards.

Standard #2: Post-Development Peak Discharge Rates

The impervious/pervious characteristics of the site are essentially the same for both the existing and future conditions. However, there will be a landscaped courtyard at the center of the site. Accordingly, the post-development discharge rate is expected not to exceed the pre-development discharge rate to the receiving body of water (Charles River). Since the discharge rate is not expected to increase, no increased flooding impacts are expected.

Standard #3: Recharge to Groundwater

Because the site is mostly impervious, except for the landscaped courtyard, under both existing and future conditions, groundwater recharge conditions will remain unchanged if not improve. Any opportunity for groundwater recharge through the use of drywells and other methods will be explored and utilized to the greatest extent possible.

Standard #4: 80 Percent Total Suspended Solids (Removal)

Any new surface control structures along with the University's grounds keeping program will address the removal of total suspended solids (TSS). The sidewalk runoff from any plazas, courtyards, and driveways will discharge to deep sump catch basins with hoods. The plazas, courtyards, and driveways will be regularly swept as part of the existing street sweeping program.

Standard #5: Higher Potential Pollutant Loads

The project site does not contain land uses with higher potential pollutant loads.

Standard #6: Protection of Critical Areas

The project site does not contain any critical areas.

Standard #7: Redevelopment Projects

The proposed Project does not increase impervious area and the Project meets the Stormwater Management Standards to the maximum extent practicable, which is required to meet Standard #7.

Standard #8: Erosion/Sediment Controls

The Project's construction documents will include measures and specifications regarding erosion and sediment controls and barriers (e.g., silt fence, hay bales, catch basin sacks). Construction dewatering discharges will be appropriately controlled and discharged in accordance with National Pollutant Discharge Elimination System (NPDES) and State dewatering standards. Further discussions regarding construction controls are included later in the Infrastructure Component.

Standard #9: Operation/Maintenance Plan

An Operation and Maintenance plan will be developed for both construction and post-development, which will include, at a minimum, system ownership information, parties responsible for operation and maintenance, and inspection and maintenance schedules. Routine maintenance is expected to include catch basin cleaning, stormwater control cleaning, and removal of debris from outlets. It is also expected that pedestrian and vehicular access ways will be swept appropriately to control sand applied during winter months.

Measures aimed at minimizing the disposition of site soils to off-site areas, primarily the surrounding streets and existing drainage collection systems, will be a part of the City's required Construction Management Plan. In addition, the proponent will apply for all appropriate permits for construction activity and dewatering. All efforts will be made to contain sediment, pollutants, and any other construction-related materials within the site. Stabilized construction exits will be installed at each access point of the work areas to minimize off-site transport of soil by construction vehicles. These exits will remain in place until site areas have been stabilized. In addition, the proponent will use best management practices (BMPs) during construction, including installing silt sacks on catch basins, providing a truck-trailer wheel wash station, using anti-tracking pads, and covering material piles



Fire Prevention and Control

The buildings' fire protection systems will be designed in compliance with the latest Massachusetts Building Code, which refers to the National Fire Protection Association Handbook. In addition, the fire protection system will meet all applicable standards and requirements as set forth in the Boston Fire Prevention Code, the Massachusetts Fire Prevention Regulations (527 CMR), and the Massachusetts Fire Prevention Laws (MGL CH 148). Compliance with the standards for the fire protection system connections will be reviewed as part of BWSC's Site Plan Review Process. The project's transformer vaults will be constructed in accordance with utility company requirements. To ensure a fire-safe design and reduce potential impacts of a vault fire on the remainder of the building, it is anticipated that the vault will include three-hour rated construction, smoke evacuation, silicone filled transformers and smoke detection.

Emergency vehicle access to the proposed project site, including the siamese building connections, will be provided. The proponent will seek input from the BFD as the project design progresses.

Fire service connections required by the project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. The proponent will obtain required permits pursuant to the Boston Fire Prevention Code, CMR 527 and MGL Chapter 148.

The proposed fire suppression system for the Project will connect to the BWSC's low service system located in Columbus Avenue Extension. Fire protection will come from the 12-inch low service system.



Anticipated Energy Needs

Natural Gas Service

Keyspan has available gas service in Columbus Avenue near the site. Space heating for the project will be provided by hot water from natural gas boilers. A Demand of 400 MM BTU/year is estimated for the project.

Electrical Service

Nstar owns an electric system in Columbus Avenue. The anticipated energy consumption for the project is 2.2 million KWH/year.



Protection of Utilities

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and governing utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by the BWSC as part of its Site Plan Review process.



Construction Coordination

The proponent will continue to work and coordinate with the utility companies to assure compliance and integrity to the project.



Sustainable Design/Energy Conservation

Energy conservation measures will be an integral part of the Project's design. The buildings will employ energy-efficient and water-conservation features for mechanical, electrical, architectural, and structural systems, assemblies, and materials where possible. The base configuration of the proposed buildings will meet the Massachusetts Energy Code. Mechanical and HVAC systems will be installed to

the current industry standards and full cooperation with the local utility providers will be maintained during design and construction.



MDC Sewer Easement and MWRA Tunnel

A 50-foot wide MDC sewer easement is located at the southwest corner of the site. A 10-foot diameter MWRA sewer is located within the easement. Available drawings indicate that the sewer consists of a 300-foot deep rock tunnel constructed in red sandstone. Future buildings are planned over the easement. Considering the presence of the sewer structure, it will be necessary to obtain an 8(m) Permit from the MWRA. The permit will describe the work to be performed. Since the depth to the sewer is 300 feet, and it is constructed entirely within bedrock, structural impacts of the proposed construction are expected to be negligible. New foundation systems will be about 200 feet or greater above the sewer tunnel. The final assessment of impact will be made by the MWRA, based on review the permit application. Modifications to the proposed foundation support can be made if necessary.



Conclusion

The proposed Project uses the existing water, sewer, electrical, steam, and natural gas systems available in public streets adjacent the project sites. Research and coordination to date indicates that these services are adequately sized to support the increased demands associated with the development of the proposed Project. The Project is consistent with the Massachusetts DEP Stormwater Management Policy, and it incorporates a number of sustainable design and energy conservation measures.

Sustainable Design

Northeastern University values sustainability and environmental stewardship. One of the fastest growing sectors in the sustainability movement has been within the architecture and building trades. The Project will be environmentally conscious in its design, construction and operation. The energy use sustainable aspects of the building will include optimizing the building envelope thermal performance, providing efficient electric lighting systems and controls, maximizing mechanical system performance and use of efficient equipment and appliances that meet EPA Energy Star criteria. Sustainable design will be implemented at all stages of building development, including plans to recycle or reuse construction and demolition waste. Further, the building design will provide and maintain indoor air quality that complies with ASHRAE / OSHA regulations. Building occupants will have operational control of windows, lighting and HVAC systems whenever possible.

The University's Facilities and Purchasing Departments are actively involved in investigating and implementing environmentally responsible initiatives. The Project will pursue sustainable design and construction strategies integrated into the planning, design, and operation of the proposed Project. The University plans to measure its success in tangible terms, and through the framework of LEED, using indicators such as reduced energy consumption, improved stormwater management, reduction in water usage, improved indoor air quality, and use of sustainable materials where possible, to evaluate performance.

The University intends to pursue the following LEED categories, as defined in the LEED credit checklist:



Sustainable Site

Urban Development: Utilize existing infrastructure to reduce the impact of construction, while being conscious of opportunities to reduce peak loads on infrastructure by handling the building's usage locally.

Transportation: Minimizing the reliance on automobiles as the primary means to access the project, and therefore reducing automobile trips and pollution. The project is located so that public transportation can be effectively utilized. In addition, due to the nature of the building as a university residence hall, the majority of the trips to and from the building will be pedestrian-oriented. The University will also be creating additional spaces for bicycle storage in future plans.

The University recently held a one-year pilot test to evaluate the viability of Club Cars; 20 cars were purchased and, these non-polluting vehicles are used by Facilities, Athletics, the Warren Center and the Henderson House. The University has approved and is implementing the purchase of biodiesel to offset the 10,000 gallons of annual diesel use on campus.

Additionally, there is currently one ZipCar located at Matthews Arena and one ZipCar located on Gainsborough Street. Northeastern encourages students to participate in the ZipCar program to discourage the use of personal automobiles.



Water Efficiency

Water Reduction: Reducing the amount of potable water usage for the project. The University is investigating a number of water conservation measures such as utilizing low-flow fixtures and identifying feasible opportunities for water harvesting and reuse for the building. The University currently uses motion sensor flushometers and faucets to conserve water usage.

Stormwater: Limiting the disruption of natural water flows by minimizing stormwater runoff to ensure that there is no net increase in the rate and quantity of stormwater runoff.



Energy & Atmosphere

Optimizing Energy Performance: Assess and measure performance of existing building, and design iterations to influence and identify opportunities for lowering energy usage for the project. The University has begun to implement energy saving initiatives including: a web-based electric metering program; low sulphur oil fuel used in the boiler plant; and, ENCORE rebate programs with NStar for lighting ballasts, VFDs and energy management systems. Furthermore, all kitchen appliances in residential halls are rated "Energy Star."

Lighting: Effective use of natural light will reduce the energy load for the building. Additional load reduction measures include incorporating compact fluorescent lamps/ballast in lieu of incandescent lamps in every possible instance, and specifying the high efficiency fluorescent lamp/ballast combination for all fixtures of that type. The University standard lamp is low mercury and energy efficient for reduced energy consumption. A lamp recycling program in place for over seven years eliminates mercury releases and is in compliance with the new state environmental regulations.

Reduce Ozone Depletion: Install equipment that does not contain HCFCs, Halons or CFC-based refrigerants. CFC-based refrigerants for HVAC systems are not used on the Campus. The University uses Light Emitting Diode ("LED") technology in all exit signs, which reduces energy consumption and carbon dioxide emissions by nearly 90 percent.



Materials & Resources

Storage & Collection of Recyclables: The University currently has a recycling program, known as "RENU", which provides the space and containers campus-wide for the recycling of glass, paper and plastic at academic, dining, administrative and residential facilities. The University will provide residents of this project with facilities for recycling as well as literature educating residents about the University's recycling program. During the summer 2006 construction period, the University will provide a container for the recycling of carpet and coordinate the recycling of this material.

Recycled Content: The Project will favor building materials and purchases of supplies that are nontoxic, made from recycled materials, and made with low embodied energy. Recyclable and recycled materials will be incorporated into the design and construction of the project as much as possible within the design scheme. It will be necessary to verify that recycled materials will be technically acceptable and comparable in quality and cost to the non-recyclable equivalent.

Currently, office products with recycled content represent approximately 25 percent of office supply purchases. All convenience copiers, printers and fax machines use recycled copy paper with 30 percent post consumer waste. Disposable paper products are made with 40 to 60 percent recycled content. Furthermore, the University's utilization of new technology has decreased the overall use of paper; this includes a pay-for-print initiative in the Snell Library computer labs.

The University's carpet standard, Lees Unibond RE, contains 20 percent post-consumer recycled content and a rapidly renewable bio-based resin. Additionally, the University has begun a pilot project to test the viability of carpet squares and identifying future installations. The University recognizes this as an efficient and affordable alternative to carpet replacement and will incorporate a new specification for carpet squares to be used in future capital construction projects. Refurbished and/or University "used" furniture is considered when it is a practical alternative to new furniture.

Regional Materials: Emphasis on regional material selection to assist increase in demand for building products that are manufactured locally.

Construction Waste Management: Effective July 1, 2006, new regulations will be in effect at the University which mandate the segregation of demolition debris. The University's goal is to achieve 80 to 90 percent recycling of demolition debris and reduce disposal costs by segregating waste and sending to recyclers.



Indoor Environmental Quality

Thermal Comfort: Provide a thermally comfortable environment for residents through a high level of occupant control for temperature, ventilation and lighting.

Air Quality: Provide effective delivery of mixing of fresh air to the space that through system controls and monitors will reduce energy consumption while providing a high level of indoor air quality.

Materials: Provide an interior material palette with an emphasis on low volatile organic compounds (VOC) that will reduce the quantity of indoor air contaminants. Low volatile organic compound (VOC) paint is the University standard for residence

halls, administrative and academic areas. The University's carpet standard, Lees Unibond RE utilizes low-emitting materials and is Carpet & Rug Institute ("CRI") Green Label Plus Certified, which certifies that the product is a low-emitting carpet. The University currently uses "green" cleaning products.

Daylight and Views: Daylight serves as a major design element for enhancing the quality of the interior spaces and reducing the energy usage of lighting during daytime hours. Views also provide a strong connection between indoor spaces and outdoor environments.



Future Initiatives

In addition to the above mentioned strategies already in place, the University is exploring future sustainability initiatives to achieve the following:

- Develop specifications for least environmentally harmful fertilizer and pesticide products.
- Evaluate biodegradable serving products as an alternative to clear plastic.
- Investigate student/staff competitions to reduce food waste.
- Increase use of 2-sided copying capabilities.
- Composting grass clippings, leaves, and other yard waste.
- Composting food service waste.
- Use of steam monitoring and irrigation meters.
- Investigate additional "Green" products, furniture/casework, manufacturing processes, flooring, etc.
- Investigate grey water use for irrigation systems.

Public Benefits

Employment Benefits

The Project will result in direct economic benefits to the City of Boston. An estimated 660 full-time direct construction jobs will be generated by the Project. Additionally, it is estimated that approximately 20 full-time jobs will be created at the Project's conclusion.

Boston Residents Construction Employment Plan

The University will continue to participate in the Boston Residents Construction Employment Program during the construction of the Project.

Benefits to Neighborhoods

The Project will benefit surrounding neighborhoods in several ways, including the following:

- Creation of approximately 1,200 new student beds will reduce the number of students driving to the campus;
- Creation of approximately 1,200 new beds in University-owned and controlled residence halls will reduce real estate pressure on the existing stock of affordable, private rental-market housing in the areas surrounding the University;
- The Project will serve to further increase pedestrian activity and dramatically increase public activity on an important linkage between the north campus and south campus;
- The addition of a major residential facility will result in significant pedestrian traffic and increased activity in the area throughout the day and evening, enhancing public safety; and
- The Project furthers the goals of the Memorandum of Agreement executed between the City of Boston and the University on July 19, 2004.
- The addition of students spending money with area merchants contributes to the communities' economic growth.
- The addition of students to the site translates into additional Northeastern University security personnel patrolling the neighborhood and therefore enhances safety.
- The University agrees to discuss future benefits associated with this PNF with abutters.

Community and City Programs

In addition to the educational resources it provides as one of Boston's largest universities, the University continues to be a major employer in the Boston area. The University provides a multitude of benefits to surrounding communities and the City at large, including those programs set forth in Appendix A.

Possible Permits / Public Approvals

Table 2-6 below lists the permits and public approvals, along with the associated granting agencies, which may be required for the Project.

Table 2-6
Possible Permits and Public Approvals

Agency	Permit or Action
State	
Massachusetts Environmental Policy Act	MEPA Review (if necessary)
Massachusetts Historical Commission	Determination of No Adverse Effect (if necessary)
Massachusetts Water Resources Authority	Construction Dewatering Permit 8M Permit
Department of Environmental Protection, Division of Water Pollution Control	Sewer Connection Permit Sewer Use Discharge permit
City	
Boston Redevelopment Authority	Article 80 Large Project Review Institutional Master Plan Amendment Approval
Boston Zoning Commission	Zoning Map Amendment Institutional Master Plan Amendment Approval
Boston Civic Design Commission	Design Review
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Transportation Department Public Improvement Commission	Street Occupancy Permit for Construction Period Permit/Agreement for Temporary Earth Retention Systems
Boston Water and Sewer Commission	Sewer Connection Permit Sewer Use Discharge Permit
Inspectional Services Department	Building Permit Occupancy Permit



View of the Parcel 18 parking lot facing west.

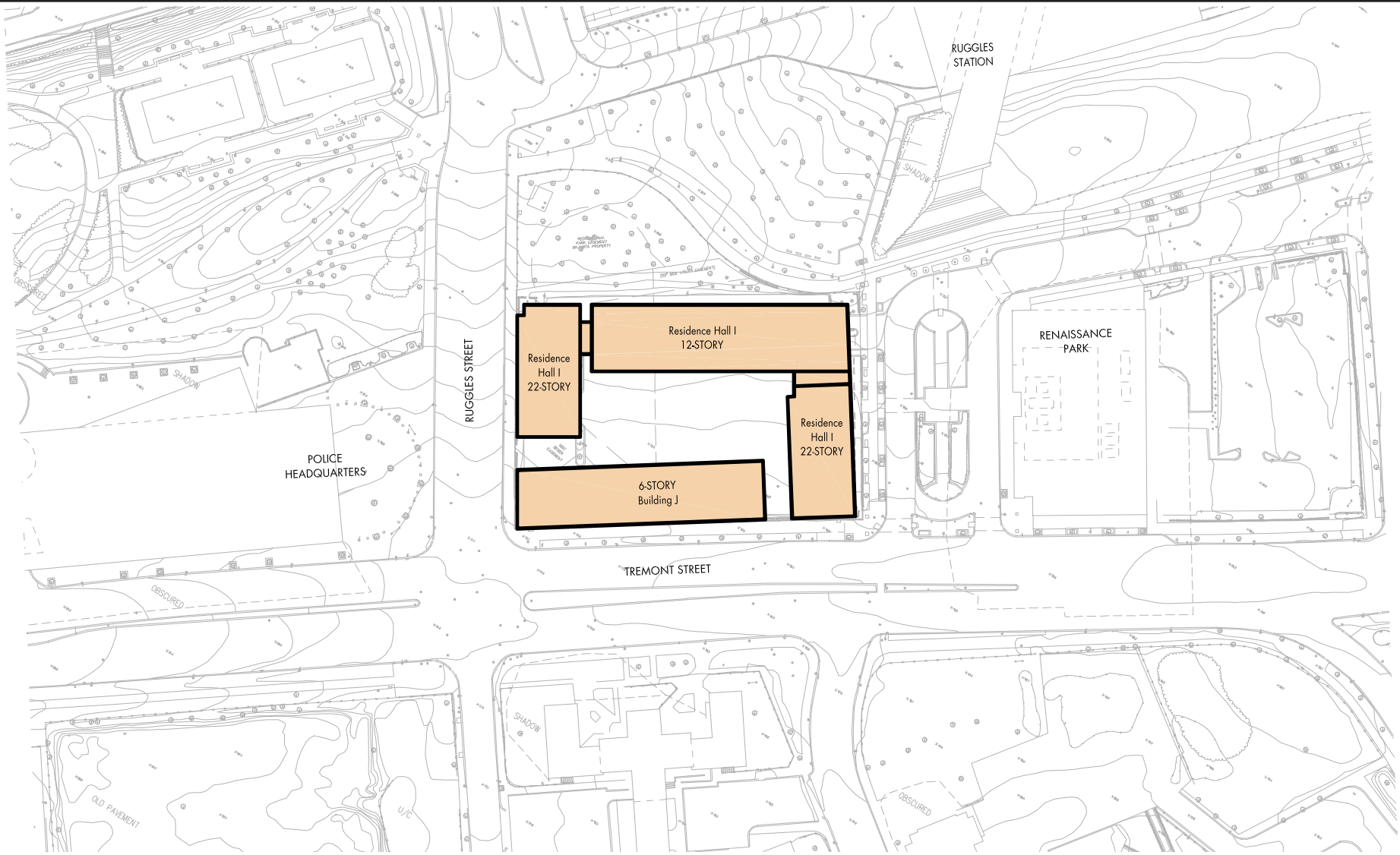


View of the Parcel 18 parking lot along Ruggles Street near Tremont St.

Vanasse Hangen Brustlin, Inc.

Figure 2.1
Existing Conditions Photographs

Parcel 18 West Development
Northeastern University
Boston, Massachusetts



Vanasse Hangen Brustlin, Inc.

Figure 2.2
Project Site Plan

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.





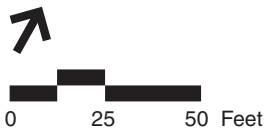
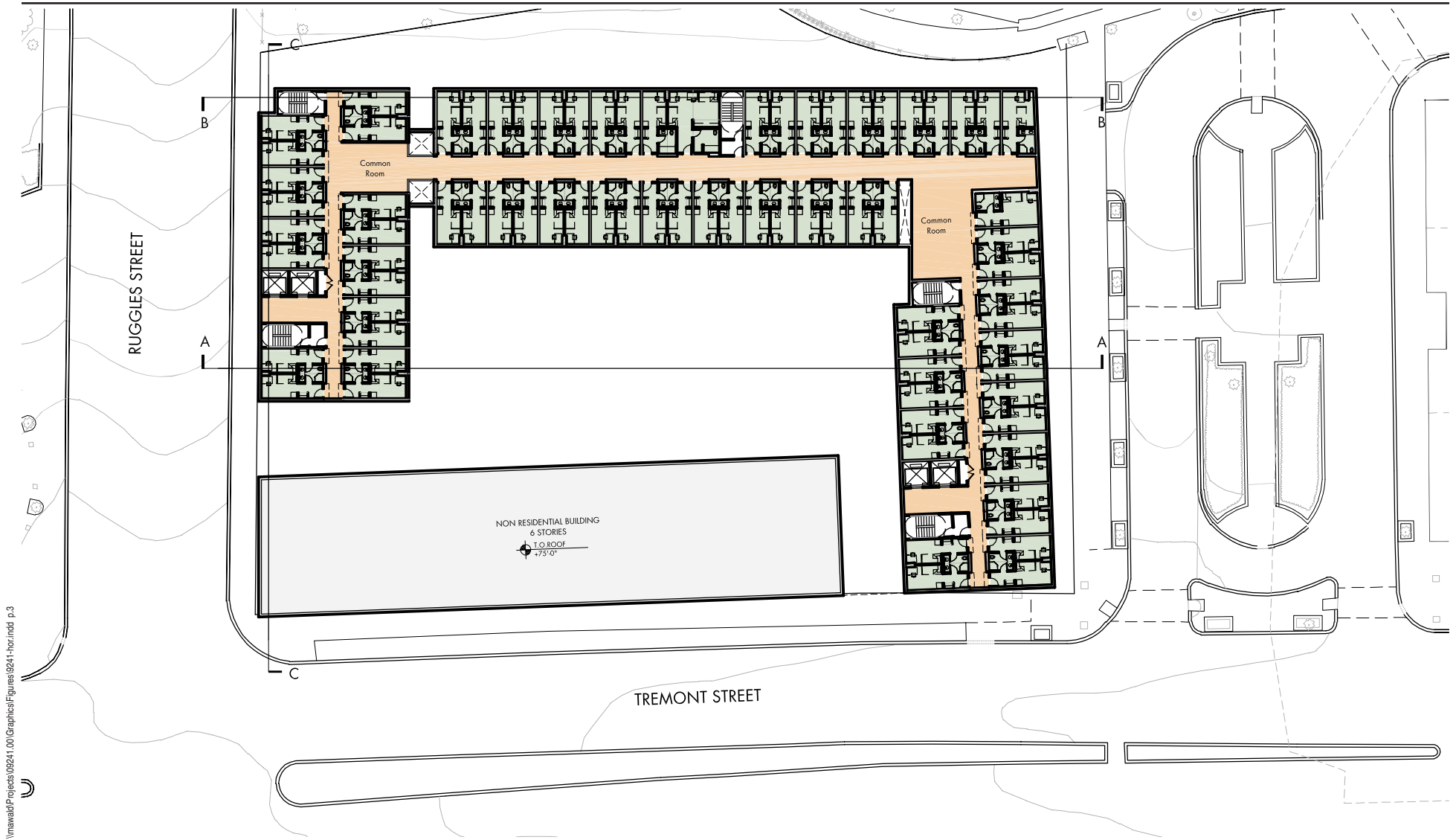


Vanasse Hangen Brustlin, Inc.

Figure 2.4
Floor 2 (Floor 3 Similar)

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Legend

- Common Space
- Singles (1 Beds)

Vanasse Hangen Brustlin, Inc.

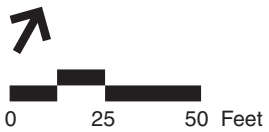
Figure 2.5
Floor 4 to 12

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



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Legend

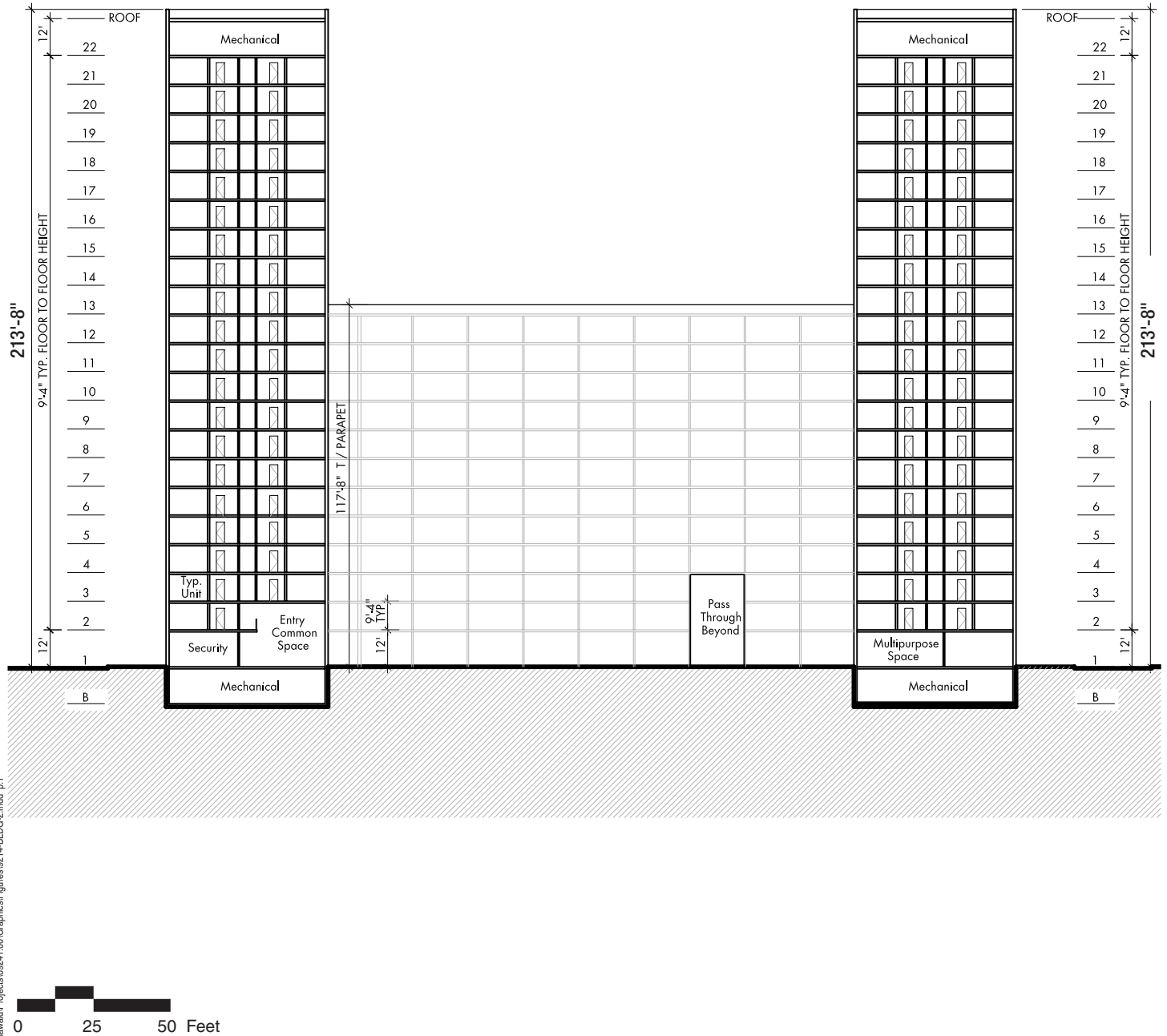
-  Common Space
-  Singles (1 Beds)

Vanasse Hangen Brustlin, Inc.

Figure 2.6
Floor 13 to 21

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.

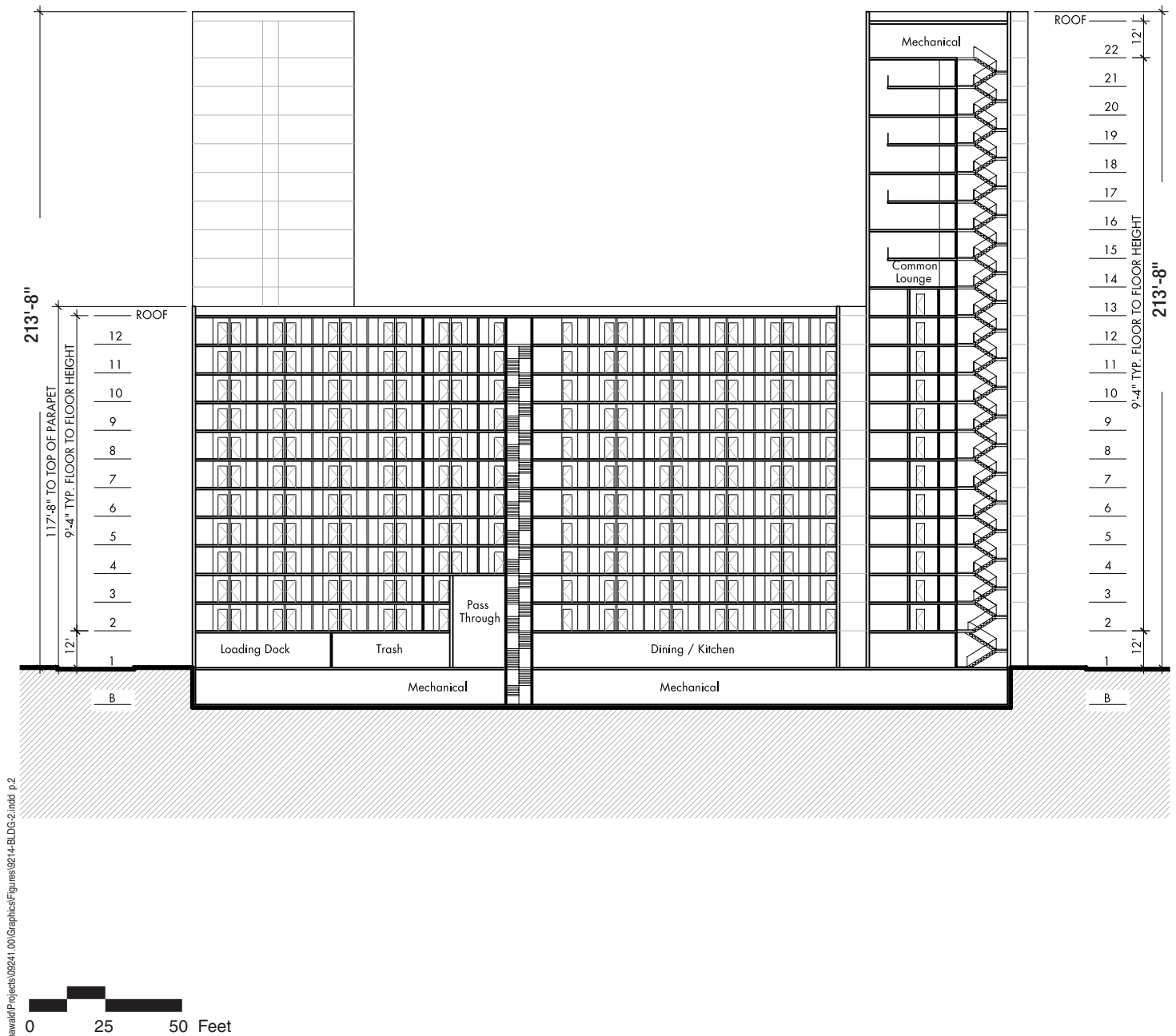


Vanasse Hangen Brustlin, Inc.

Figure 2.7
Cross-Section A

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.

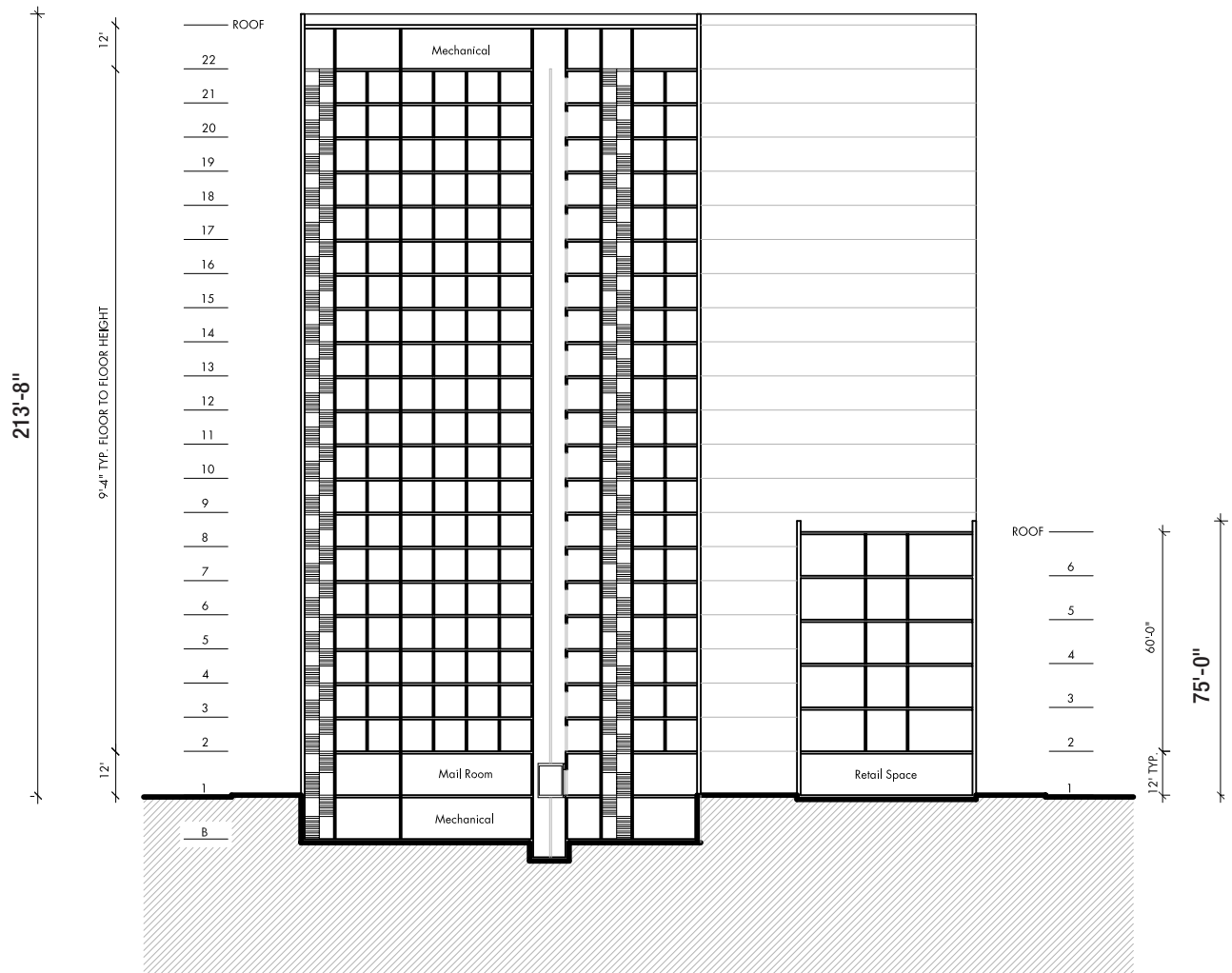


Vanasse Hangen Brustlin, Inc.

Figure 2.8
Cross- Section B

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Vanasse Hangen Brustlin, Inc.

Figure 2.9
Cross-Section C

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Vanasse Hangen Brustlin, Inc.

Figure 2.10
Site Model Photographs

Parcel 18 West Development
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.

Project Notification Form (PNF) Residence Hall K

Introduction

Northeastern University (“the University”) is proposing to build Residence Hall K (“the Project”), a single building containing a new residence hall, retail, and associated dormitory uses, on the existing Cullinane Hall academic and administration building site located at 288 St. Botolph Street (the “project site”). This section of St. Botolph Street has been identified as a major gateway into the University and the 2000 IMP called for improvements to this roadway and pedestrian environment to improve the entries to the University. The Project will anchor this improved gateway.

The approximately 200,000 SF project will contain 600 residential beds, 1,800 SF of ground-floor retail, study and media rooms, assembly rooms, common lounges on each floor and laundry facilities.

The Project will achieve the University’s goal to integrate students into discrete parts of the campus. This area of campus does not currently contain any University residence halls, however residential units associated with the YMCA and the New England Conservatory are adjacent to the site. Its proximity to academic and student facilities makes the site an excellent location for a student dormitory. Both the Mugar Building and Hurtig Hall contain research, classroom, and office space. Other University buildings within 500 feet of the project site contain academic facilities and dining, as well as the Curry Student Center.

Project Information

Table 3-1
Project Information Table

Project Name:	Residence Hall K
Site Location:	288 St. Botolph Street (Cullinane Hall) Northeastern University Campus
Current Property Owner:	Northeastern University
Project Proponent:	Northeastern University Office of Government Relations and Community Affairs 360 Huntington Avenue, 304CP Boston, Massachusetts 02115-5000 (617) 373-3168 Contact: Robert Gittens, Esq., Vice President Public Affairs Jeffrey Doggett, Director Government Relations and Community Affairs Larry Brophy, Associate Director Government Relations and Community Affairs Joseph Warren, Ph.d Special Assistant to the Vice President Public Affairs
Project Design Status:	Design Development of the Project is in progress.
Estimated Construction Cost:	\$75,000,000
Estimated Construction Commencement and Completion Dates:	Anticipated to commence during the Fall of 2009 and to be completed by late Summer 2011.
Public Financial Assistance:	The Project will be financed primarily through the proceeds of taxable or tax-exempt bonds issued by the Massachusetts Health and Educational Facilities Authority (HEFA).

Project Summary



Existing Conditions

The Project involves redevelopment of a parcel currently owned by the University. The project site is bounded by the Mugar Life Sciences Building on the southwest side, the Boston YMCA on the northwest side, the New England Conservatory to the north, Gainsborough Garage on the northeast side, and Hurtig Hall to the southeast. Situated in the eastern end of the University's Boston campus, the project area consists of primarily academic and other non-residential buildings, which are predominately five stories. The 2000 IMP identified this area of St. Botolph Street, west of Gainsborough, as a major gateway to the University. As such, it is an appropriate location for a new University building.

The existing Cullinane Hall is a three-story brick structure housing the University's Facilities Department (See Figure 3.1). The 28,286 square foot (SF) building was originally constructed in 1910 by the YMCA; it was historically used as a vocational building for the Automotive and Electrical Schools of the YMCA and more recently as classroom and office uses for the University. Originally named the Vocational Building, it was the first structure constructed on Huntington Avenue for educational purposes. The building, then referred to as the Botolph Building, was renovated in 1926 when the Automotive School closed. It became the first permanent Northeastern building when ownership was transferred in 1930. Renovations occurred in the 1930s, 1980s and 1990s.



Proposed Project

The Project is programmed to be used as a residence hall for University students, and will include a total of approximately 600 beds. Additional uses include approximately 1,800 SF of retail on the ground floor, study and media rooms, administrative offices, assembly rooms, common lounges on each floor and laundry facilities (see Figure 3.2, Site Plan). The program mix of residential space will include approximately 65 percent double rooms with a shared bath and approximately 35 percent single rooms with a shared bath. Floors two through five will each contain three apartment style units with four beds, a kitchen, bathroom and common living area (see Figures 3.3 through 3.6). The Project contributes to the University's commitment to fulfilling the goals of the Memorandum of Agreement ("MOA") signed in July 2004 to provide additional on-campus student housing.

The massing of the building is designed to present a lower-scale, pedestrian friendly façade on St. Botolph Street and step up to a taller building accommodating the majority of the 600 residential units at the rear of the site. Therefore, the portion

fronting St. Botolph Street will be five stories and approximately 54 feet high while the rear tower will be twenty-two stories (214 feet) (see Figures 3.7 and 3.8). Mechanical equipment will be located on the twenty-second floor and in the basement.

Consistency with the Institutional Master Plan

The University's Institutional Master Plan notes that the University's strength and success as an urban campus is, in large part, the result of its strong sense of openness and connection to the City of Boston. This relationship with the surrounding community and the city at large is a strong tradition of the University. In support of this relationship, the Institutional Master Plan identifies its primary Urban Design Goal as maintaining a balance between "an openness to the city and public access" and a "sense of threshold and image of the University".

The design of this Project is consistent with the principal planning guidelines established in the Institutional Master Plan. As mentioned earlier, this area was identified by the University as an important gateway to Northeastern University, one that has been largely underused. The proposed building will present an important image to the city while simultaneously welcoming the public into the campus from the eastern edge. Additionally, the project provides the following:

- An increase in on-campus housing to provide a higher ratio of students living on campus.
- A contemporary and dynamic architectural statement that responds to the site's context and creates an important marker at the eastern edge of the Northeastern campus.
- A residential environment that encourages and reinforces interaction among students. Program spaces within the residence hall include common spaces as well as office and retail facilities.
- Proper screening of all mechanical equipment.
- Signage to be approved by the BRA through Comprehensive Sign Design Review.

The Project is located in the Institutional Subdistrict (IS) of the Fenway Neighborhood of the City of Boston Zoning Code. The University's 2000 Institutional Master Plan designated the Cullinane Hall building to be renovated and it is currently used for administration. However, after an 18-month community process, the University's revised focus allocates housing to this site and administrative and classroom uses to other areas of campus.

The Project is designed to have a building height of 214 feet (22 stories) thus exceeding the maximum height dimensional regulations provided in the 2000

Institutional Master Plan, which are 155 feet and 13 stories. The development of student housing on the Cullinane Hall site is essential to meeting the University's housing goals.

Urban Design Component

The Project has been designed to be a significant enhancement contributing to its immediate University surroundings, the adjacent neighborhoods, and the broader Boston metropolitan region. This section discusses the relationship between Cullinane Hall and its urban context, including the Project's contributions to the public realm, architectural compatibility, urban design features, and improvements to the pedestrian environment. A neighborhood context assessment and various plans and graphics illustrate the proposed building architecture, massing, and other major components. Due to its visibility from Huntington Avenue, the Project is expected to be subject to BRA Design Review.

Historically, the central core of the Northeastern campus has been the area bounded between Huntington Avenue, the MBTA Orange Line, Gainsborough Street and Forsyth Street. With the development of Residence Hall K, student housing will be established within the central core area and will create an intense mixture of residential and academic uses organized along St. Botolph Street. The Project will provide a new landmark building to the central campus core. The increased pedestrian traffic along the street will assure a more attractive and seamless connection across Massachusetts Avenue and the South End community.

Northeastern University has a series of "front doors" to the City. These front doors present the image of the university to the city while simultaneously welcoming the public into the campus. With the development of Residence Hall K on the existing Cullinane Site, St. Botolph will be transformed into a major entry point to the campus and will assure a much more attractive seamless connection across Massachusetts Avenue to the South End community. To strengthen the pedestrian scale of the street, a lower 5-story building will be located parallel to St. Botolph Street with the higher tower portion of the building setback and buffered by the lower section. The lower building will include apartment style student units and will be visually broken down vertically and horizontally to give a residential scale to the project. The tower portion of the project is slim in width and presents its short side to St. Botolph Street. There will be a 30' setback from the existing Hurtig Hall to the southeast. All services to the building will be located on the non-frontal sides of the building and will be accessed by a new service road connected to the area behind the Gainsborough Garage.

Pedestrian Connections and Environment

In the University's 2000 IMP, St. Botolph Street was designated as an additional gateway to the Northeastern University campus. The Cullinane Hall project will greatly enhance the pedestrian environment along St. Botolph Street by adding residents to this area, the project creates a stronger pedestrian connection between downtown Boston and numerous cultural institutions and the main academic campus. The Project will contribute to an improved, safer pedestrian environment in the following ways:

- Introduce twenty-four hour users to this section of Northeastern University and the City of Boston.
- Outdoor lighting will be designed for both student and public circulation through the site, providing appropriate light levels for safety and comfort.
- The Project's proximate location just east of the main campus will facilitate the resident population's walking to the main academic and administrative buildings. The site is also conveniently located within a walkable distance to public transportation.
- With an architecturally unique building, draw the greater Boston community further down St. Botolph Street, both into the campus and through the St. Botolph Area Architectural Conservation District.

Architectural Compatibility with Surrounding Structures

The design of the Project is sensitive to its surrounding context, creating a contemporary architectural image and replacing an existing building that contributes little to the surrounding urban fabric. The massing volume steps up from north to south across the site, starting with five-stories and terminating in a twenty-two story tower (see Figure 3.9, Site Model Photographs). The architecture of the Project will provide the following benefits:

- Complementary massing with the proposed residential towers on Parcel 18 to the south and with Building H to the west;
- Enhancement of St. Botolph Street as an important pedestrian gateway to the eastern part of the campus.
- Respect the architectural style of St. Botolph Street.

Conclusion

The Project is designed to be a major contributing neighbor to the community as well as the larger Boston region. Each of the major elements of the project is designed to enhance the public realm and contribute significantly to this part of the city, making it a more vital place to live, visit, and work and making it a prominent gateway to Northeastern University. The University and its design team are committed to continue working with the BRA, other City of Boston agencies, and the local community to further improve the project design and ultimately develop a new defining landmark for both the University and the City of Boston.

Environmental Protection Component

Wind

The University will conduct a quantitative wind study to analyze the impact of this project on pedestrian-level wind conditions at St. Botolph Street, Gainsborough Street, and the neighboring campus uses.

Shadow

The Project is designed and sited to minimize shadow impacts on neighboring lots. The University will conduct a shadow study to determine the shadow cast from this project, specifically the tower, on the South End and Fenway communities and the Northeastern campus.

Daylight

The University will conduct a daylight analysis to analyze the amount of daylight potentially obstructed as a result of this Project.

Solar Glare

The building design may include glazing. Therefore, the University will conduct a solar glare analysis to determine the level of glare resulting from the project design.

Air Quality

Because the project is expected to generate fewer trips to the site and is not expected to generate any increase in vehicular traffic to the campus, there will be no long-term impact on air quality from traffic associated with the project. Short-term air quality impacts from fugitive dust may occur during construction. Mitigation methods such as wetting down and removal of excavate from the site by covered trucks will be used as necessary to help control construction dust.

Water Quality

The project site is an existing building, built almost entirely to current lot constraints. The proposed project will retain the same building footprint in new construction. Although the building footprint is relatively flat and poses no topographic problems in construction, the proposed loading area experiences a grade change and will require mitigation. To ensure that all applicable water quality requirements are met, the University and its consultants will work with the Boston Water and Sewer Commission ("BWSC") through the design process to identify appropriate alterations to the existing stormwater drainage system on the project site which will have a positive impact on water quality. The University continually works to improve the existing sanitary sewer system through repair and updating of university connections to BWSC's collection system. The University and the BWSC are committed to working together in developing an appropriate dye-testing program to map out connections and identify facilities needing attention.

The University will continue working with the BWSC to develop strategies for managing flows and improving the quality of stormwater discharge from the University campus as a whole. The University has been leader in returning the urban hardscape to a more absorbent natural green space wherever possible and will continue this practice with the Project. The University employs best management practices to remove and dispose of materials from catch basins and/or particle separators at least once a year in order to reduce particulate matter from flowing to the Charles River. Oil/Water separators and kitchen grease traps are also routinely cleaned to prevent oils from flowing into sanitary systems that lead to wastewater treatment facilities.

Flood Hazards/Wetlands

The project site is located entirely within Zone C, areas of minimal flooding with elevations above the 100-year flood benchmark, according to the *Federal Emergency*

Management Agency Flood Insurance Rate Map for City of Boston, Massachusetts. The project site contains no wetland resource areas.



Historic Resources

Based on a review of the March 2004 State and National Registers of Historic Places and list of designated Boston Landmarks, the nearest historically significant properties to the project site are:

- Boston Young Men's Christian Association, 312-320 Huntington Avenue
- New England Conservatory of Music – Jordan Hall, 290 Huntington Avenue
- The Riviera, 270 Huntington Avenue
- Symphony Hall, 301 Massachusetts Avenue
- Horticultural Hall, 300 Massachusetts Avenue
- Students House (Kerr Hall), Northeastern University, 96 The Fenway
- Olmsted Park System, Back Bay Fens
- The New Riding Club, 52 Hemenway Street
- Greek Orthodox Cathedral of New England, 520 Parker Street
- Isabella Stewart Gardner Museum, 280 The Fenway

In addition to being listed on the National Register of Historic Places, the New England Conservatory of Music and Symphony Hall are designated as National Historic Landmarks. In addition to these properties, the Museum of Fine Arts and many buildings on Parker Street, Columbus Avenue and in the East Fens neighborhood are included in the Massachusetts Historical Commission's *Inventory of Historic and Archaeological Assets of the Commonwealth*.

The nearest significant historic districts to the project site are the Boston Landmark South End Landmark District and Historic District, Saint Botolph Street Area Architectural Conservation District, Lower Roxbury Historic District, the National Register-listed Frederick Douglass Square Historic District, and Fenway-Boylston Street Historic District.

Although the project site was surveyed in the 2004 Preservation Plan, the Cullinane Building has not been listed on the State or National Register, the In the 2004 Preservation Plan, the University committed to comply with regulations by filing under the Boston Zoning Code, Chapter 254, MEPA and Section 106 for current or future projects, when applicable. These filings will require the University to identify historic resources that may be affected by the Project by referring to the Plan and mitigate any adverse effects. No historic sites are located within 1,000 feet of the project site. The site is within approximately 500 feet from the Lower Roxbury Historic District. The construction of the proposed Project will be sensitive to the nearby historic resources.

Groundwater/Geotechnical

Groundwater

Groundwater monitoring conducted on the Northeastern University Campus since 1988 indicates groundwater levels ranging from 7.5 to 14 feet below site grades in the vicinity of the project site. This corresponds to elevations ranging from 3.5 to 6 feet Boston City Base datum (BCB). More recent groundwater level measurements have been obtained by the Boston Groundwater Trust (BGwT), at groundwater monitoring wells located to the north and east of the project site, along Gainsborough Street and Huntington Avenue. These wells indicate groundwater elevations range from approximately 2 to 8.5 feet BCB.

Temporary construction dewatering will be required to dewater excavations and conduct foundation construction in the dry. However, considering the depth of the proposed basement which is expected to be at or above existing groundwater levels, required dewatering is expected to be limited. Consistent with other new construction on the Northeastern University Campus, below grade construction will be designed to not impact area groundwater levels. Perimeter foundation drains will not be allowed.

Groundwater Conservation Overlay District

The project site is located within the Groundwater Conservation Overlay District. The Project plans to obtain a conditional use permit from the Zoning Board of Appeals, which requires proof that the project will not have an adverse effect on groundwater levels at the site or on abutting properties. Currently, the water from a 1-inch rainfall event must be captured and recharged. This requirement will be incorporated into the project design and construction.

Geotechnical

Several test borings were previously completed at, or in the immediate vicinity of the proposed site for nearby developments. These test borings were drilled to depths ranging from 15 to 62 feet below existing ground surface. Based on the available subsurface information, the following general soil profile is anticipated:

Table 3-2
Soil Profile

Generalized Description	Depth to Top of Layer (ft)	Thickness of Layer (ft)
Fill	--	10.0
Organic Silt and Peat	1.5 to 14.0	10.0
Sand	7.5 to 29.5	5.0
Marine Clay	12.5 to 32.5	>100.0
Glacial Till	90 to 115	10
Bedrock	100 to 125	--

It is anticipated that deep pile foundations, extending to glacial till or bedrock at depths greater than 100 feet, will be required for support of the proposed structure. Further evaluation of feasible foundation options will be conducted during design.



Solid/Hazardous Waste

No site-specific information has been obtained to date regarding site environmental conditions related to presence of oil and hazardous materials. Based on the site location excavated soils may contain levels of chemical constituents typically encountered in urban fill soils. Specific testing of soil and groundwater will be conducted prior to construction to evaluate conditions and requirements for special handling or transport of excavated materials from the site.



Noise

Noise will be generated during the construction phase of the Project by activities such as construction traffic, excavation and foundation work, and the operation of construction equipment. Construction noise levels will comply with applicable state and City of Boston noise regulations. The operation of the completed facility may result in a minimal increase in ambient noise levels due to HVAC and exhaust equipment. It is expected that the Project will not result in any significant increase in ambient noise levels on the project site or adjacent properties.



Rodent Control

In connection with demolition, utility relocation, or other construction activities, Northeastern or a licensed pest control service will conduct an inspection of the

project site to evaluate the risk of rodent displacement. The University will implement a program of preconstruction control and eradication as necessary, based on the results of the site inspection. Routine maintenance of trash containers and removal of waste from the site will be required.



Wildlife Habitat

The project site is currently built out and is located within a fully developed urban area. The University is not aware of any rare or endangered species or any ecologically significant plant community which may be affected by the Project. *The Massachusetts Natural Heritage Atlas (1997 Edition)* shows no threatened or endangered species in the campus area.

Transportation

The current Institutional Master Plan evaluates an array of campus-wide transportation issues and provides a series of mitigation measures. This evaluation was based on plans to develop several new buildings on the Northeastern campus and to provide a substantial reorganization of the campus parking supply. Overall, the new building projects described in the IMP result in a decrease in trip generation for the campus and a shifting of University-related traffic on surrounding roadways. The IMP also outlines a transportation mitigation plan designed to offset the potential traffic impacts of the master plan projects and to provide an overall reduction in the transportation demand, especially traffic, generated by the University.

With the proposed development of the Project, the amount of on-campus housing will increase and trips to and from the campus will decrease from the number projected in the IMP. As a result, the Project is not expected to have any substantial transportation impacts and no additional mitigation is anticipated to be necessary.

The followings sections provide a brief summary of the transportation analysis contained in the IMP and describe how the current program for the Project impacts that analysis.



IMP Transportation Analysis Summary

Transportation planning was a significant component of the IMP filed by the University. Existing traffic conditions were evaluated at over 30 intersections surrounding the University. Existing conditions assessments of on-street and off-street parking, public transit service, bicycle and pedestrian access, loading, and service and emergency access were considered in the IMP transportation analysis. In

addition, the IMP included a detailed analysis of campus demographics and travel patterns. The demographic analysis included:

- Student enrollment,
- University employment,
- Campus trip generation,
- Mode splits for commuting trips, and
- Traffic arrival/departure patterns.

The existing conditions analysis in the IMP formed the basis for estimating the future transportation impacts of the Master Plan development program. The Master Plan projects are intended to improve the University's facilities and to improve the operation of the transportation system serving the campus in three distinct ways:

- Development of over 2,000 student beds to increase the number of students living on the campus, thereby reducing the need for students to travel to and from the campus during peak commuting hours;
- Improvement of the pedestrian pathways and landscaping throughout the campus to encourage walking; and
- Reducing and consolidating the University's parking supply from many smaller facilities into few larger facilities to provide easier and more direct access from regional roadways.

The IMP developed No-Build and Build future scenarios for both 2005 and 2010 based on projections of enrollment, staffing and the mixture of residential and commuting students for those two horizon years. Analyses of traffic, parking, pedestrian and bicycle patterns, public transit, loading, and service access were conducted for both horizon years.

The Master Plan included construction of approximately 2,270 new beds on campus by 2010, including Building A which came on line in 1999. The first amendment to the IMP (Residence G and Building H) increased the projected number of beds by 330. These additional beds came on line in the fall of 2004. This increased the total new bed count to about 2,600. With relatively stable enrollment, these new beds increased the proportion of students living on-campus and reduced the number of students commuting to the University on a daily basis. The Residence G and Building H Project accelerated the University's construction of student housing and increased the total number of beds to be constructed.

A second amendment to the IMP was made for Building F which resulted in an additional 229 new student beds, bringing the number of new beds to more than 2,899. This building will come on line this fall (2006) and complete the proposed housing expansion envisioned by the IMP four years ahead of the 2010 schedule included in the IMP.

Proposed Development Program

The Project will be part of the third amendment to the IMP and includes changing the designated use of the Cullinane Hall site to residential use. For the year 2010 transportation analyses included in the IMP, the project site was assumed to be renovated office and academic space. As currently proposed, the Project will be developed into an additional 600 beds of on-campus student housing.

Trip Generation

Estimates of trip generation were developed for the 2010 Build Conditions in the Institutional Master Plan. Those estimates were based primarily upon the following three characteristics of the University:

- Projected employment (faculty and staff),
- Projected enrollment (student population), and
- Mixture of resident and commuting students.

As described in the IMP, a campus-wide increase of approximately 5 percent in staff and a negligible increase in faculty were projected for 2005. Staff and faculty numbers were expected to remain stable from 2005 to 2010. Overall student enrollment was forecast to increase by 4 percent by 2005 and remain stable between 2005 and 2010. The projected increases in staff and students result in small expected increases in trip generation for the campus. However, these small increases in trip generation due to staff and student increases were expected to be more than offset by the shift of more than 2,200 students from living off campus to living on campus. As noted above, the more than 2,899 students shifted from living off-campus to living on-campus. This changing mixture of residential and commuting students and resultant increase in the percentage of students living on campus is expected to reduce student travel to and from the campus.

The currently proposed Project, with an additional 600 student beds, will provide on-campus housing units beyond what was envisioned in the IMP as previously amended. Acceleration of housing construction at the University will result in lower trip generation for the campus than projected in the IMP for the year 2010. Table 3-3 presents the trip generation for the campus as projected in the IMP and revised estimates reflecting the current program for the Project.

Table 3-3
Campus Person Trip Generation by Mode

Time Period/Mode	IMP 2010 Scenario	With Amendments 1 and 2 ¹	With Cullinane	Change from IMP 2010 Scenario	With Cullinane and Parcel 18 F	Change from IMP 2010 Scenario
<i>Daily</i>						
Drive Alone	11,420	11,190	10,970	-450	10,530	-890
Carpool	1,840	1,790	1,730	-110	1,620	-220
Transit	12,700	12,220	11,710	-990	10,680	-2,020
<u>Walk/Bike</u>	<u>4,480</u>	<u>4,170</u>	<u>3,840</u>	<u>-640</u>	<u>3,190</u>	<u>-1,290</u>
Total	30,440	29,370	28,250	-2,190	26,020	-4,420
<i>Morning Peak Hour</i>						
Drive Alone	1,029	1,004	980	-49	931	-98
Carpool	168	163	158	-10	148	-21
Transit	1,147	1,099	1,048	-99	947	-200
<u>Walk/Bike</u>	<u>409</u>	<u>381</u>	<u>352</u>	<u>-57</u>	<u>292</u>	<u>-118</u>
Total	2,753	2,647	2,538	-215	2,428	-437
<i>Evening Peak Hour</i>						
Drive Alone	1,142	1,119	1,097	-45	1,053	-89
Carpool	184	179	173	-11	162	-22
Transit	1,270	1,222	1,171	-99	1,068	-202
<u>Walk/Bike</u>	<u>448</u>	<u>417</u>	<u>384</u>	<u>-64</u>	<u>319</u>	<u>-129</u>
Total	3,044	2,937	2,825	-219	2,602	-442

¹ Buildings G, H and F

As the above table shows that when combined with Building G, H and F changes, the Project reduces vehicle trips by approximately 670 on a daily basis, 49 during the morning peak hour, and 45 during the evening peak hour. Combined with the development of 1,200 beds on Parcel 18, the reduction of vehicle trips is even greater with about 98 fewer vehicles in the morning peak hour, about 89 fewer trips in the evening peak hour, and about 890 vehicles on a daily basis. These reductions are a function of the decreased dependency on the use of automobiles for students living on campus.

The changes in the building program are not anticipated to change the employee trip generation characteristics of the campus. The only major programmatic difference between the IMP program and the currently proposed program is the number of students housed on campus. It is important to note that the estimates shown in Table 3-3 above reflect external trips to and from the campus. The proposed project will generate additional internal trips beyond those shown in the table. The vast majority of these additional internal trips are expected to be walking trips to and from other points in the campus.

Parking

The Project will not eliminate any parking because currently there is no parking on the project site. The Project will not include any parking and, as a result, will have no affect on the overall campus parking supply.

Based on the projected shift of 600 commuting students to resident student status, the demand for parking on the campus is expected to decline. It is expected that the demand for daytime parking permits will decline by 50 and the demand for overnight permits will increase by 40. The result is a net reduction of 10 spaces in parking demand.

Changes in parking demand were estimated from registration rates for resident and commuter students based on parking permit information supplied by the University. Residence Hall K will house upper class students and resident assistants. Consistent with University parking policy, students living in Residence Hall K will be permitted to purchase on-campus parking permits. To keep a car on-campus will require purchase of both a daytime permit and an overnight permit.

Public Transit

The campus is well served by public transit with direct access to the Orange Line at Ruggles station and the Mass Ave station and the Green Line at the Northeastern stop. Additionally, the University is served by the Commuter Rail at Ruggles station. Several bus routes also provide transit service to the campus. The Project is not expected to affect transit services in the vicinity of the campus. As described in the Trip Generation section, no additional demands are expected to be placed on public transit facilities and services as a result of this Project, individually or as a result of the overall IMP development program. In fact, the Project and overall IMP development program are expected to reduce the University's demand for transit services.

Pedestrian Circulation and Bicycle Access

As described in the Trip Generation section, the Project will result in an increase in internal pedestrian traffic, principally between the site and other parts of the campus. The increased trips will be predominantly walking trips given the proximity of the site to the main academic and administrative buildings and nearby business and transit stops. Pedestrians will use the existing walkways on campus. As described in the Transportation Access Plan Agreement entered into by the University and the City of Boston, the University will install bicycle racks as needed by students in the Project.

Loading and Service

An off-street loading, delivery and trash pick-up area will be located on the east side of the building on a service road adjacent to the Gainesboro Garage. Access will be from either Gainesborough Street near the MBTA tracks or St. Botolph Street.

Transportation Demand Management

The Institutional Master Plan includes a comprehensive transportation mitigation program for the campus, and the University is pursuing the mitigation items as described in the IMP and in the Transportation Access Plan Agreement entered into with the City of Boston. The Project, as currently proposed, will not result in any additional transportation impacts beyond those considered in the IMP. The IMP provides a great deal of information on the University's mitigation program. Below are some of the key highlights:

- On-site sale of MBTA passes,
- Pre-tax purchase of MBTA passes for employees,
- Employee MBTA pass subsidy,
- Operation of a commuter services office,
- Ride-matching program,
- Alternative work week during summer months,
- Limited overnight parking for residential students,
- Pedestrian and bicycle enhancements throughout the campus, and
- Traffic and roadway improvements at several area intersections.

The University monitors the usage of its parking facilities and collects data relating to on-campus sales of MBTA passes for its employees and students.

Move-in/Move-Out Traffic Management

The University described its move-in/move-out operations in the IMP Supplement issued in May 2000. The University has in place a comprehensive and well-managed student move-in program, which has been reviewed and enhanced over time by a committee composed of staff from Residential Life, Public Safety, Building Services, and Dining Services. In general, procedures for student move-out are less formalized as the move-out period extends over a longer period resulting in lower concentration of activity.

The typical fall move-in takes place over a five-day period in mid-September. To help alleviate congestion on neighborhood streets and process students efficiently, the

committee developed a staging plan requiring students to report to specific parking lots where they are processed and sent in manageably-sized groups over a designated route to their residence halls. This process has been used with success and enhanced since 1999.

Additionally, the University's Public Safety Division works closely with the Boston Police Department and the State Police to provide sufficient police coverage at the major intersections impacted by move-in to aid in traffic flow. The University also works with the Boston Transportation Department to bag parking meters and reserve space at key locations to assist with traffic movement. Neighborhood residents are made aware of fall move-in by written and verbal communication from the Office of Government Relations and Community Affairs and, for convenience, are offered on-campus parking on those days in lieu of parking on local streets.



Construction Management

The University has considered the potential for short-term construction-related transportation impacts during the development of the Project, including construction vehicle traffic and parking. The University will submit a Construction Management Plan to the Boston Transportation Department (BTD) addressing these issues.

Construction of the Project is expected to take approximately 24 months. Off-site construction impacts will be primarily limited to adjacent property owned by Northeastern, and construction activities will be managed to minimize traffic, noise, and air quality effects. Methods of minimizing construction impacts on University activities and the public include segregation of the project site from the rest of the campus and routing of construction traffic to avoid residential areas.

Construction activities will be limited to the project site to minimize impacts on University operations, except those activities necessary for utilities connections. Fencing and barriers will be provided to segregate the construction site, which should provide adequate area for staging and construction. No unusual construction methods are anticipated, and therefore there should be no significant effect on areas outside the Site.

As necessary in the course of the City's review of the Project, the University and its contractors will work with the Boston Transportation Department to develop and implement a Construction Management Plan (a "CMP") to minimize construction-related impacts.

Construction Vehicle Traffic

Construction vehicle traffic will be controlled in accordance with applicable regulations and procedures, and is not expected to significantly impact the capacity

of streets in the area. The University will work with its construction contractors to minimize noise and other disturbances associated with construction traffic. Access to the site will be via St. Botolph Street or Gainesboro Street from Massachusetts Avenue and Huntington Avenue. Trucks will be routed to avoid residential areas to the extent possible.

Parking

The number of construction workers on-site will vary depending on the construction activities being performed. It is expected that an average of 100 construction workers will be on-site at any given time during construction. During the busiest construction periods, the number of construction workers on-site could exceed 130. The University will require its construction contractors to make arrangements for transportation for workers to the site, including public transportation to the extent possible, and to restrict workers from bringing cars to the campus area. No parking will be provided for construction workers on campus.

To control emissions on campus, “No Idling” signs have been installed at numerous locations across the campus. Signs are presently installed at the loading docks at 716 Columbus Place, Speare Hall, the Forsyth Building, Mugar Life Sciences Building, Curry Student Center, and Nightingale Hall, to name a few. Several of the University’s maintenance vehicles have been converted to compressed natural gas to reduce emissions and to promote alternative technologies

Pedestrian Access

Measures will be implemented for the safety of pedestrians walking near the site during construction, including protective fences or other barriers around the construction site and replacement walkways, if necessary. Appropriate lighting will be provided.



Conclusion

The Project will result in less traffic on the campus than was envisioned in the development of the IMP. Construction of residence hall space will reduce the need for students to commute to the campus. The proposed housing will also reduce the demand for parking on-campus.

Infrastructure



Introduction

This section evaluates the infrastructure systems that will support the Cullinane Site Project. Based on initial investigations and consultations with the appropriate agencies, utility companies, and University officials, all existing infrastructure systems are adequately sized to accept the incremental increase in demand associated with the development and operation of the proposed Project. The following utilities are evaluated: wastewater, water, stormwater management, private steam, natural gas, electricity, and telecommunications. In addition, consideration is given to the sustainable elements of the energy supply provision for the Project.

The final design process for the Project will include all required engineering analyses and will adhere to all applicable protocols and design standards, ensuring that the buildings are properly supported by, and in turn properly use, the City's infrastructure. Detailed design of the Project's utility systems will proceed in conjunction with the design of the buildings and interior mechanical systems.

The Project will be located on the former Cullinane Hall building site off St. Botolph Street adjacent to the Gainsboro Garage to the west. The building will connect to existing City and utility company systems in the adjacent public streets.

The systems discussed below include those owned or managed by the Boston Water and Sewer Commission (BWSC), the Massachusetts Water Resources Authority (MWRA), the Massachusetts Bay Transportation Authority (MBTA), private utility companies, and university-owned systems. There will be close coordination with these entities by the project engineers and architects during the design process and subsequent reviews.

All improvements and connections to BWSC infrastructure will be reviewed by the agency as part of its site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of project demands and system capacity, and establishment of service accounts. All improvements to the University-owned systems, including steam and telecommunications, will be coordinated with the Northeastern University Physical Plant.

Regulatory Framework

This section describes existing and future infrastructure connections and discusses the regulatory framework of utility connection reviews and standards. All

connections will be designed and constructed in accordance with City, State and Federal standards.

- In the City of Boston, the BWSC is responsible for all water, sewer and stormwater systems and site plan approvals.
- A sewer connection permit from the Massachusetts Department of Environmental Protection (DEP) will be required.
- The Boston Fire Department will review the Project with respect to fire protection measures such as siamese connections and standpipes.
- Design of the site access, hydrant locations, and energy systems (gas, steam, and electric) will also be coordinated with the respective system owners.
- New utility connections will be authorized by the City of Boston Public Works Department through the street opening permit process, as required.

Additional information on the regulatory framework for each utility system is included in subsequent sections of the Infrastructure Component.



Wastewater System

Existing Conditions

Campus sanitary sewage is currently discharged into the Boston Water and Sewer Commission (“BWSC”) sewer mains in Ruggles Street, Parker Street, Forsyth Street, St. Stephen Street, Hemenway Street, Huntington Avenue, and Columbus Avenue. Sanitary sewage from these mains is conveyed to the Massachusetts Water Resources Authority (“MWRA”) system for treatment. The site currently is occupied by a 3-story brick building and has a sanitary sewer connection in St. Botolph Street.

Projected Sewage Generation

The Project’s sewage generation rates were estimated using the Massachusetts State Environmental Code (Title 5) at 310 CMR 15.203. This reference lists typical generation values for the sources listed in Table 3-4. As shown in Table 3-4, the project will have average daily flows of approximately 43,090 gpd of sanitary sewage.

Table 3-4
Sewage Generation

Use	Number	Rate	Total gpd
Student Beds	600 beds	65 gpd/bed	39,000
Retail	1,800 SF	50 gpd/1,000 SF	90
Laundry Facilities	10	400 gpd /washing machine	4,000
Total			43,090 gpd

Proposed Connection

The proponent will coordinate with the BWSC on the design and capacity of the proposed connection to the sewer system. In addition, the proponent will submit a General Service Application and site plan for review as the project progresses. The Project will generate new wastewater flows exceeding 15,000 gallons per day which will require filing of a Sewer Connection Permit with the Massachusetts DEP.

The sewer service for the Project will tie to the 12-inch sanitary sewer in St. Botolph Street.

It is likely that this project will require Infiltration/Inflow mitigation at a 4:1 ratio for the estimated sewage flow as part of the BWSC Order of Conditions. The project will be required to mitigate 172,360 gallons from the BWSC's sewage system.



Domestic Water Supply and Fire Protection System

Existing Conditions

The project site is currently served by a 10-inch water line, which is located in St. Botolph Street. Water for the site is provided by the BWSC. There are five different water systems within the city, and these provide service to portions of the city based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high.

As the project progresses, BWSC will be contacted to provide up to date hydrant flow information. This will be necessary to support the BWSC and Building Permit reviews.

Water Demand

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 is applied to the average daily wastewater flows to estimate an average daily water demand. This factor accounts for consumption and other miscellaneous losses. The Project will require approximately 47,400 gallons of water per day. The water will be supplied by BWSC.

Proposed Water System

Domestic water service connections required by the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connections will be reviewed as part of BWSC's Site Plan Review Process. This review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and BFD requirements.

The project site will be serviced by the BWSC's low service system located in St. Botolph Street. Both domestic and fire protection will connect to the 10-inch low service system.



Stormwater Management

Since the project site already has significant coverage with impervious surfaces, construction of the Project will not produce significant changes in either the pattern or rate of stormwater runoff. Stormwater management controls will be established in compliance with BWSC standards and the Project will not result in an increase of any peak flows, pollutants, or sediments that would potentially impact the receiving waters of the local BWSC stormwater drainage system.

Existing Conditions

The project site consists of a building and bituminous concrete pavement drives which are impervious to rainfall percolation. The property is serviced by a drain that discharges into the 15-inch drain to the south of the property which ultimately ties into the Stoneybrook Culvert.

Proposed Conditions

Construction of the proposed Project will not produce significant changes in the rate of stormwater runoff from the site. The overall impervious surface will be reduced on the site. This will allow for the potential of reducing discharge rates into the system. Area drains and catch basins will be used in the landscaped areas and sidewalks to capture stormwater runoff.

As part of BWSC's review process, the project will identify appropriate measures such as detention and reuse of stormwater wherever applicable to minimize flows from the site.

Stormwater management controls will be established in compliance with BWSC standards, and the Project will not introduce any increased peak flows, pollutants, or sediments that would potentially impact the Charles River (the receiving body of water). In conjunction with the site plan and the General Service Application, the proponent will submit a stormwater management plan to the BWSC. Compliance with the standards for the final site design will be reviewed as part of the BWSC Site Plan Review Process.

Compliance with DEP Stormwater Management Policy

The Project involves the redevelopment of a previously developed site. Standard 7 of the Stormwater Management Standards states: "Redevelopment of previously developed sites must meet the Stormwater Management Policy to the maximum extent practicable. However, if it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions." To demonstrate the ways in which the Project will be consistent with the Stormwater Management Policy, a discussion of each Stormwater Management Standard follows:

Standard #1: Untreated Stormwater

The Project will treat the runoff contributed by paved areas through appropriate stormwater measures. DEP Management Standards identify rooftop runoff (except certain metal roofs) as uncontaminated for the purposes of the Stormwater Management Standards.

Standard #2: Post-Development Peak Discharge Rates

The impervious/pervious characteristics of the site are essentially the same for both the existing and future conditions. Accordingly, the post-development discharge rate is expected not to exceed the pre-development discharge rate to the receiving body of water (Charles River). Since the discharge rate is not expected to increase, no increased flooding impacts are expected.

Standard #3: Recharge to Groundwater

Because the site is mostly impervious, under both existing and future conditions, groundwater recharge conditions will remain unchanged. The project site is located within the Groundwater Conservation Overlay District. The Project plans to obtain a conditional use permit from the Zoning Board of Appeals, which requires proof that the project will not have an adverse effect on groundwater levels at the site or on abutting properties. Currently, the water from a 1-inch rainfall event must be captured and recharged. This requirement will be incorporated into the project design and construction.

Standard #4: 80 Percent Total Suspended Solids (Removal)

Any new surface control structures along with the University's grounds keeping program will address the removal of total suspended solids (TSS). The sidewalk runoff from any paved areas will discharge to deep sump catch basins with hoods. The plazas and driveways will be regularly swept as part of the existing street sweeping program.

Standard #5: Higher Potential Pollutant Loads

The project site does not contain land uses with higher potential pollutant loads.

Standard #6: Protection of Critical Areas

The project site does not contain any critical areas.

Standard #7: Redevelopment Projects

The proposed Project does not increase impervious area and the Project meets the Stormwater Management Standards to the maximum extent practicable, which is required to meet Standard #7.

Standard #8: Erosion/Sediment Controls

The Project's construction documents will include measures and specifications regarding erosion and sediment controls and barriers (e.g., silt fence, hay bales, catch basin sacks). Construction dewatering discharges will be appropriately controlled and discharged in accordance with National Pollutant Discharge Elimination System (NPDES) and State dewatering standards. Further discussions regarding construction controls are included later in the Infrastructure Component.

Standard #9: Operation/Maintenance Plan

An Operation and Maintenance plan will be developed for both construction and post-development, which will include, at a minimum, system ownership information, parties responsible for operation and maintenance, and inspection and maintenance schedules. Routine maintenance is expected to include catch basin cleaning, stormwater control cleaning, and removal of debris from outlets. It is also

expected that pedestrian and vehicular access ways will be swept appropriately to control sand applied during winter months.

Measures aimed at minimizing the disposition of site soils to off-site areas, primarily the surrounding streets and existing drainage collection systems, will be a part of the City's required Construction Management Plan. In addition, the proponent will apply for all appropriate permits for construction activity and dewatering. All efforts will be made to contain sediment, pollutants, and any other construction-related materials within the site. Stabilized construction exits will be installed at each access point of the work areas to minimize off-site transport of soil by construction vehicles. These exits will remain in place until site areas have been stabilized. In addition, the proponent will use best management practices (BMPs) during construction, including installing silt sacks on catch basins, providing a truck-trailer wheel wash station, using anti-tracking pads, and covering material piles



Fire Prevention and Control

The buildings' fire protection systems will be designed in compliance with the latest Massachusetts Building Code, which refers to the National Fire Protection Association Handbook. In addition, the fire protection system will meet all applicable standards and requirements as set forth in the Boston Fire Prevention Code, the Massachusetts Fire Prevention Regulations (527 CMR), and the Massachusetts Fire Prevention Laws (MGL CH 148). Compliance with the standards for the fire protection system connections will be reviewed as part of BWSC's Site Plan Review Process.

The project's transformer vaults will be constructed in accordance with utility company requirements. To ensure a fire-safe design and reduce potential impacts of a vault fire on the remainder of the building, it is anticipated that the vault will include three-hour rated construction, smoke evacuation, silicone filled transformers and smoke detection.

Emergency vehicle access to the proposed project site, including the siamese building connections, will be provided. The proponent will seek input from the BFD as the project design progresses.

Fire service connections required by the project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. The proponent will obtain required permits pursuant to the Boston Fire Prevention Code, CMR 527 and MGL Chapter 148.

The proposed fire suppression system for the project site will connect to the BWSC's low service system located in St. Botolph Street. Fire protection will come from the 10" low service system.

Sustainable Design

Northeastern University is committed to sustainability and environmental stewardship. One of the fastest growing sectors in the sustainability movement has been within the architecture and building trades. The project will be environmentally conscious in its design, construction and operation. The energy use sustainable aspects of the building will include optimizing the building envelope thermal performance, providing efficient electric lighting systems and controls, maximizing mechanical system performance and use of efficient equipment and appliances that meet EPA Energy Star criteria. Sustainable design will be implemented at all stages of building development, including plans to recycle or reuse construction and demolition waste. Further, the building design will provide and maintain indoor air quality that complies with ASHRAE / OSHA regulations. Building occupants will have operational control of windows, lighting and HVAC systems whenever possible.

The University's Facilities and Purchasing Departments are actively involved in investigating and implementing environmentally responsible initiatives. The Project will pursue sustainable design and construction strategies integrated into the planning, design, and operation of the Project. The University plans to measure its success in tangible terms, and through the framework of LEED, using indicators such as reduced energy consumption, improved stormwater management, reduction in water usage, improved indoor air quality, and use of sustainable materials where possible, to evaluate performance.

The University intends to pursue the following LEED categories, as defined in the LEED credit checklist:



Sustainable Site

Urban Development: Utilize existing infrastructure to reduce the impact of construction, while being conscious of opportunities to reduce peak loads on infrastructure by handling the building's usage locally.

Transportation: Minimizing the reliance on automobiles as the primary means to access the project, and therefore reducing automobile trips and pollution. The Project is located so that public transportation can be effectively utilized. In addition, due to the nature of the building as a university residence hall, the majority of the trips to and from the building will be pedestrian-oriented. The University will also be creating additional spaces for bicycle storage within the Project.

The University recently held a one-year pilot test to evaluate the viability of Club Cars; 20 cars were purchased and, these non-polluting vehicles are used by Facilities, Athletics, the Warren Center and the Henderson House. The University has approved and is implementing the purchase of biodiesel to offset the 10,000 gallons of annual diesel use on campus.

Additionally, there is currently one ZipCar located at Matthews Arena and one ZipCar located on Gainsborough Street. Northeastern encourages students to participate in the ZipCar program to discourage the use of personal automobiles.



Water Efficiency

Water Reduction: Reducing the amount of potable water usage for the project. The University is investigating a number of water conservation measures such as utilizing low-flow fixtures and identifying feasible opportunities for water harvesting and reuse for the building. The University currently uses motion sensor flushometers and faucets to conserve water usage.

Stormwater: Limiting the disruption of natural water flows by minimizing stormwater runoff to ensure that there is no net increase in the rate and quantity of stormwater runoff.



Energy and Atmosphere

Optimizing Energy Performance: Assess and measure performance of existing building, and design iterations to influence and identify opportunities for lowering energy usage for the project. The University has begun to implement energy saving initiatives including: a web-based electric metering program; low sulphur oil fuel used in the boiler plant; and, ENCORE rebate programs with NStar for lighting ballasts, VFDs and energy management systems. Furthermore, all kitchen appliances provided by the University in residential halls are rated "Energy Star."

Lighting: Effective use of natural light will reduce the energy load for the building. Additional load reduction measures include incorporating compact fluorescent lamps/ballast in lieu of incandescent lamps in every possible instance, and specifying the high efficiency fluorescent lamp/ballast combination for all fixtures of that type. The University standard lamp is low mercury and energy efficient for reduced energy consumption. A lamp recycling program in place for over seven years eliminates mercury releases and is in compliance with the new state environmental regulations.

Reduce Ozone Depletion: Install equipment that does not contain HCFCs, Halons or CFC-based refrigerants. CFC-based refrigerants for HVAC systems are not used on

the Campus. The University uses Light Emitting Diode (“LED”) technology in all exit signs, which reduces energy consumption and carbon dioxide emissions by nearly 90 percent



Materials and Resources

Storage and Collection of Recyclables: The University currently has a recycling program, known as “RENU”, which provides the space and containers campus-wide for the recycling of glass, paper and plastic at academic, dining, administrative and residential facilities. The University will provide residents of this project with facilities for recycling as well as literature educating residents about the University’s recycling program. During the summer 2006 construction period, the University will provide a container for the recycling of carpet and coordinate the recycling of this material.

Recycled Content: The Project will favor building materials and purchases of supplies that are nontoxic, made from recycled materials, and made with low embodied energy. Recyclable and recycled materials will be incorporated into the design and construction of the project as much as possible within the design scheme. It will be necessary to verify that recycled materials will be technically acceptable and comparable in quality and cost to the non-recyclable equivalent.

Currently, office products with recycled content represent approximately 25 percent of office supply purchases. All convenience copiers, printers and fax machines use recycled copy paper with 30 percent post consumer waste. Disposable paper products are made with 40 to 60 percent recycled content. Furthermore, the University’s utilization of new technology has decreased the overall use of paper; this includes a pay-for-print initiative in the Snell Library computer labs.

The University’s carpet standard, Lees Unibond RE, contains 20 percent post-consumer recycled content and a rapidly renewable bio-based resin. Additionally, the University has begun a pilot project to test the viability of carpet squares and identifying future installations. The University recognizes this as an efficient and affordable alternative to carpet replacement and will incorporate a new specification for carpet squares to be used in future capital construction projects. Refurbished and/or University “used” furniture is considered when it is a practical alternative to new furniture.

Regional Materials: Emphasis on regional material selection to assist increase in demand for building products that are manufactured locally.

Construction Waste Management: Effective July 1, 2006, new regulations will be in effect at the University which mandate the segregation of demolition debris.

Northeastern's goal is to achieve 80 to 90 percent recycling of demolition debris and reduce disposal costs by segregating waste and sending to recyclers.



Indoor Environmental Quality

Thermal Comfort: Provide a thermally comfortable environment for residents through a high level of occupant control for temperature, ventilation and lighting.

Air Quality: Provide effective delivery of mixing of fresh air to the space that through system controls and monitors will reduce energy consumption while providing a high level of indoor air quality.

Materials: Provide an interior material palette with an emphasis on low volatile organic compounds (VOC) that will reduce the quantity of indoor air contaminants. Low volatile organic compound (VOC) paint is the University standard for residence halls, administrative and academic areas. The University's carpet standard, Lees Unibond RE utilizes low-emitting materials and is Carpet & Rug Institute ("CRI") Green Label Plus Certified, which certifies that the product is a low-emitting carpet. The University currently uses "green" cleaning products.

Daylight and Views: Daylight serves as a major design element for enhancing the quality of the interior spaces and reducing the energy usage of lighting during daytime hours. Views also provide a strong connection between indoor spaces and outdoor environments.



Future Initiatives

In addition to the above mentioned strategies already in place, the University is exploring future sustainability initiatives to achieve the following:

- Develop specifications for least environmentally harmful fertilizer and pesticide products.
- Evaluate biodegradable serving products as an alternative to clear plastic.
- Investigate student/staff competitions to reduce food waste.
- Increase use of 2-sided copying capabilities.
- Composting grass clippings, leaves, and other yard waste.
- Composting food service waste.
- Use of steam monitoring and irrigation meters.

- Investigate additional “Green” products, furniture/casework, manufacturing processes, flooring, etc.
- Investigate grey water use for irrigation systems.

Public Benefits

Employment Benefits

The Project will result in direct economic benefits to the local community and the City of Boston. An estimated 296 full-time direct construction jobs will be generated by the Project. Additionally, it is estimated that approximately 12 full-time jobs will be created at the Project’s conclusion.

Boston Residents Construction Employment Plan

The University will continue to participate in the Boston Residents Construction Employment Program during the construction of the Project.

Benefits to Neighborhoods

The Project will benefit surrounding neighborhoods in several ways, including the following:

- Creation of approximately 600 new student beds will reduce the number of students driving to the campus;
- Creation of approximately 600 new beds in University-owned and controlled residence halls will reduce real estate pressure on the existing stock of affordable, private rental-market housing in the areas surrounding the University;
- The addition of a major residential facility will result in significant pedestrian traffic and increased activity in the area throughout the day and evening, enhancing public safety; and
- The project complies with the Memorandum of Agreement executed between the City of Boston and the University on July 19, 2004.

Community and City Programs

In addition to the educational resources it provides as one of Boston’s largest universities, the University continues to be a major employer in the Boston area. The

University provides a multitude of benefits to surrounding communities and the City at large, including those programs set forth in Appendix A.

Possible Permits/Public Approvals

Table 3-5 below lists the permits and public approvals, along with the associated granting agencies, which may be required for the Project.

Table 3-5
Possible Permits and Public Approvals

Agency	Permit or Action
State	
Massachusetts Environmental Policy Act	MEPA Review (if necessary)
Massachusetts Historical Commission	Determination of No Adverse Effect (if necessary)
Massachusetts Water Resources Authority	Construction Dewatering Permit 8M Permit
Department of Environmental Protection, Division of Water Pollution Control	Sewer Connection Permit Sewer Use Discharge permit
City	
Boston Redevelopment Authority	Article 80 Large Project Review Institutional Master Plan Amendment Approval
Boston Zoning Commission	Zoning Map Amendment Institutional Master Plan Amendment Approval
Boston Civic Design Commission	Design Review
Boston Landmarks Commission	Article 85 Demo Delay
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Transportation Department Public Improvement Commission	Street Occupancy Permit for Construction Period Permit/Agreement for Temporary Earth Retention Systems
Boston Water and Sewer Commission	Sewer Connection Permit Sewer Use Discharge Permit
Inspectional Services Department	Building Permit Occupancy Permit



View of north side of Cullinane Hall from St. Botolph



View of the west side of Cullinane Hall.

Vanasse Hangen Brustlin, Inc.

Figure 3.1
Existing Conditions Photographs

Residence Hall K
Northeastern University
Boston, Massachusetts

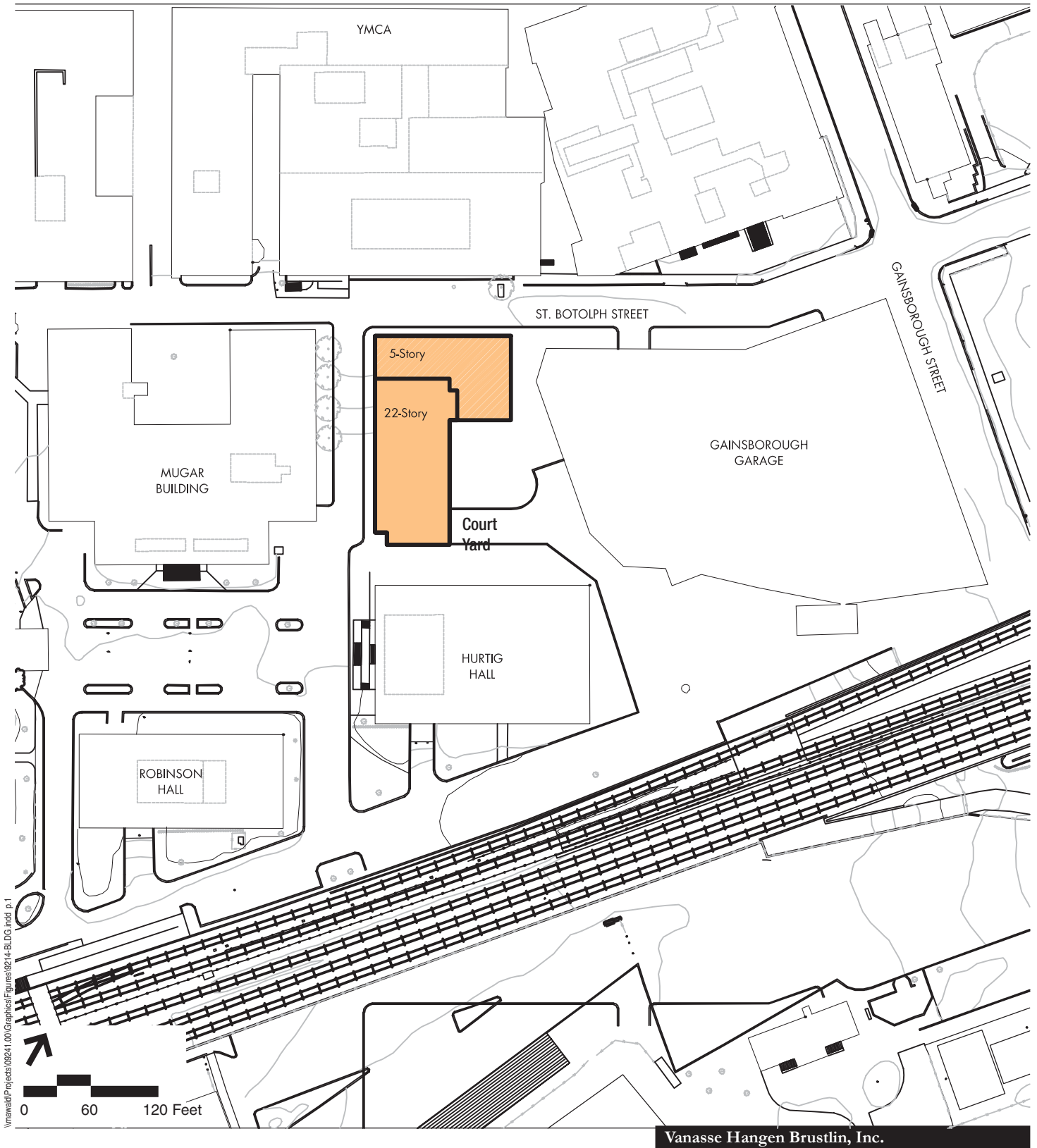
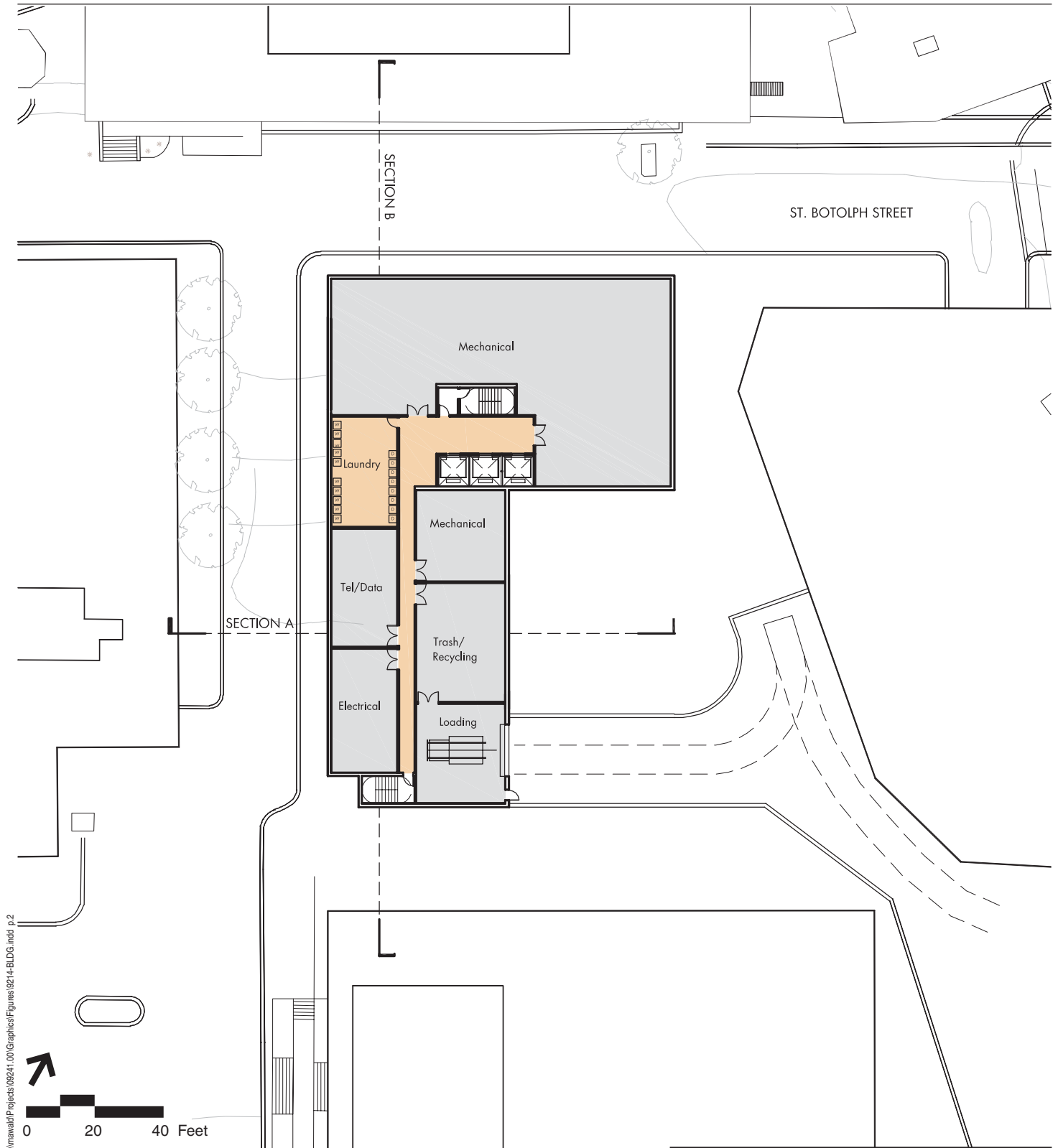


Figure 3.2
Project Site Plan

Residence Hall K
Northeastern University
Boston, Massachusetts



Vanasse Hangen Brustlin, Inc.

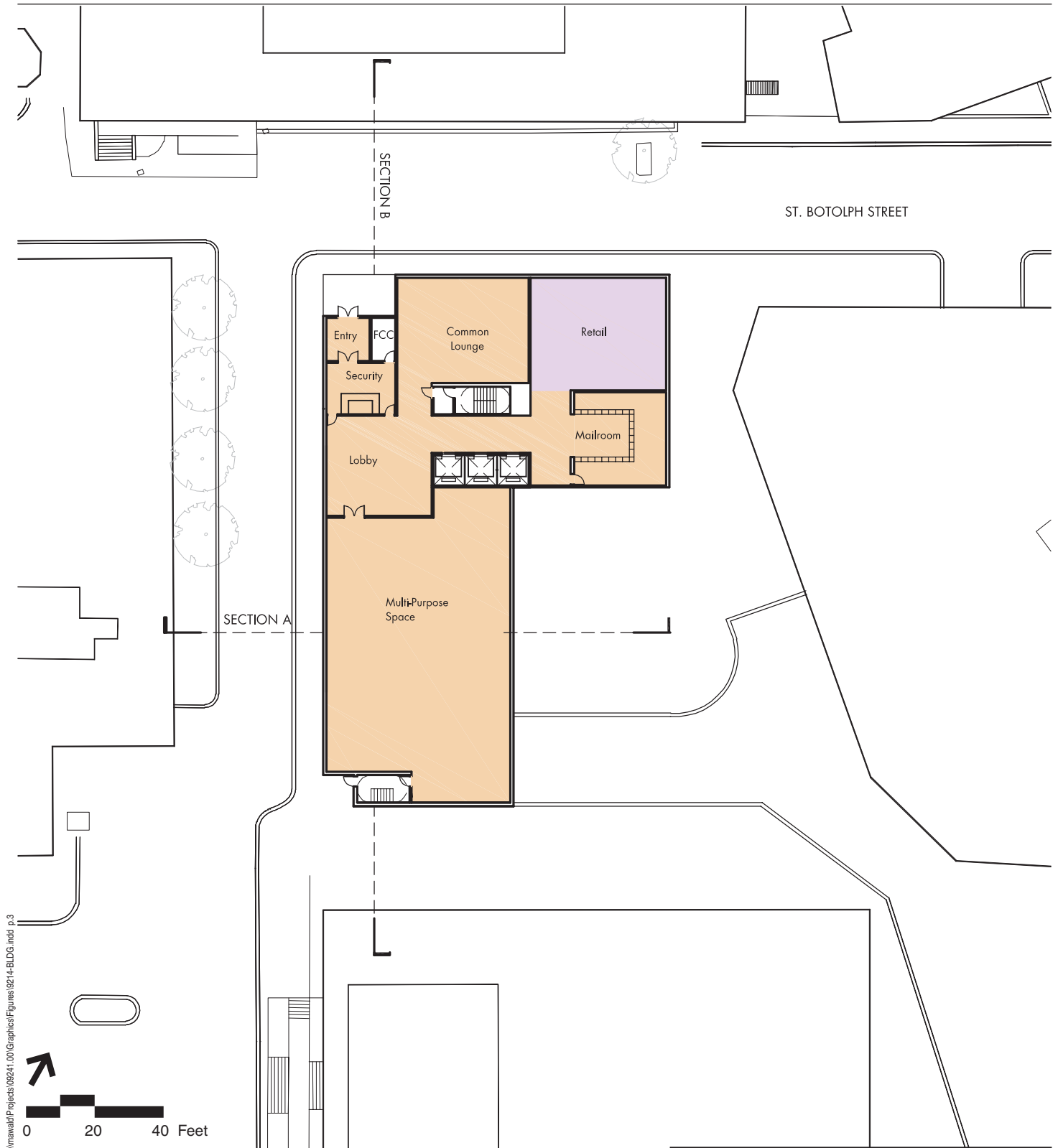
Legend

- Common Space
- Building Maintenance / Utility

Figure 3.3
Subsurface Floor Plan

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Vanasse Hangen Brustlin, Inc.

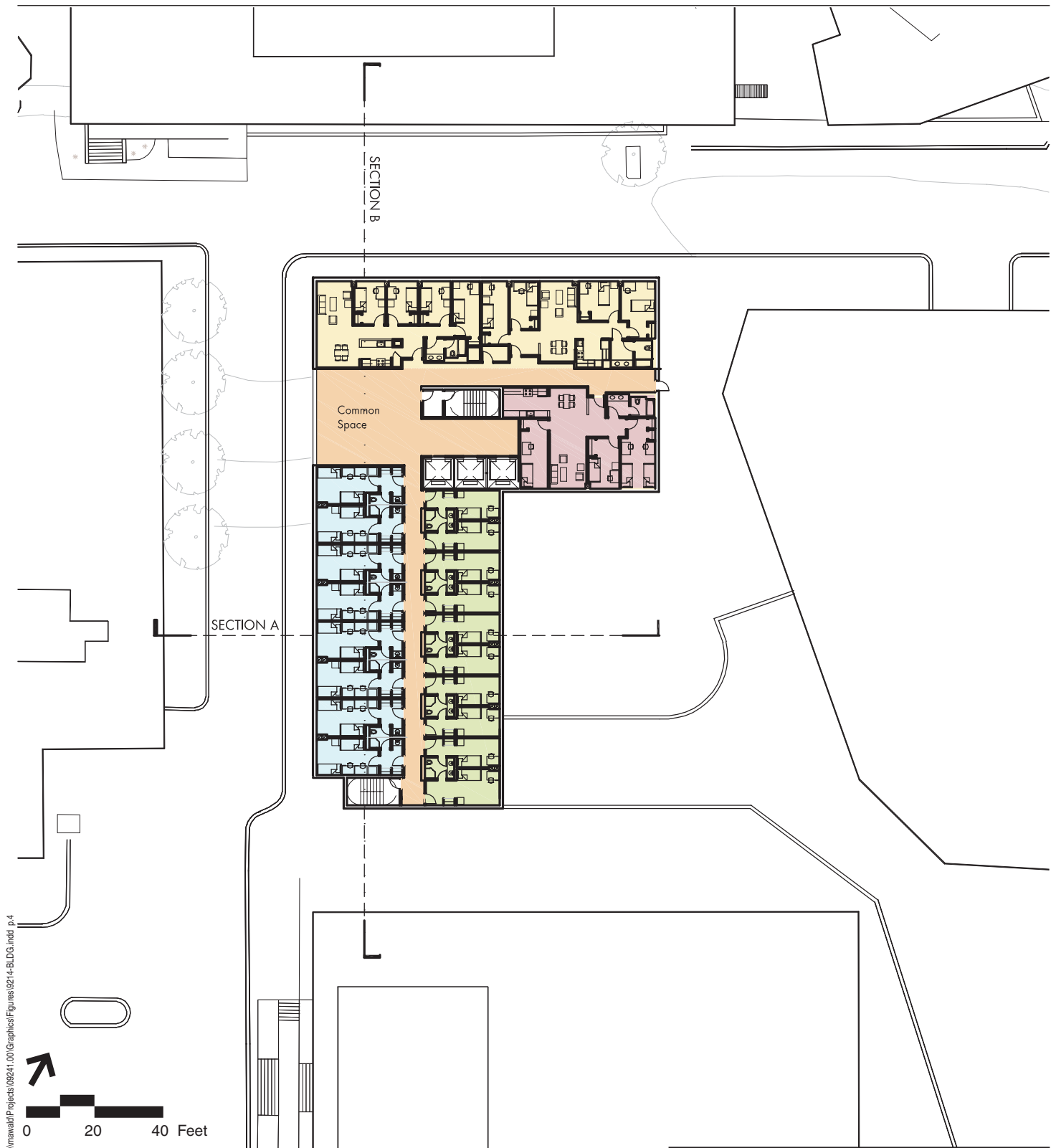
Legend

- Common Space
- Retail

Figure 3.4
Ground Floor Plan

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.




Vanasse Hangen Brustlin, Inc.

Legend

 Common Space

Residential

 Doubles (2 Beds)

 Singles (1 Beds)

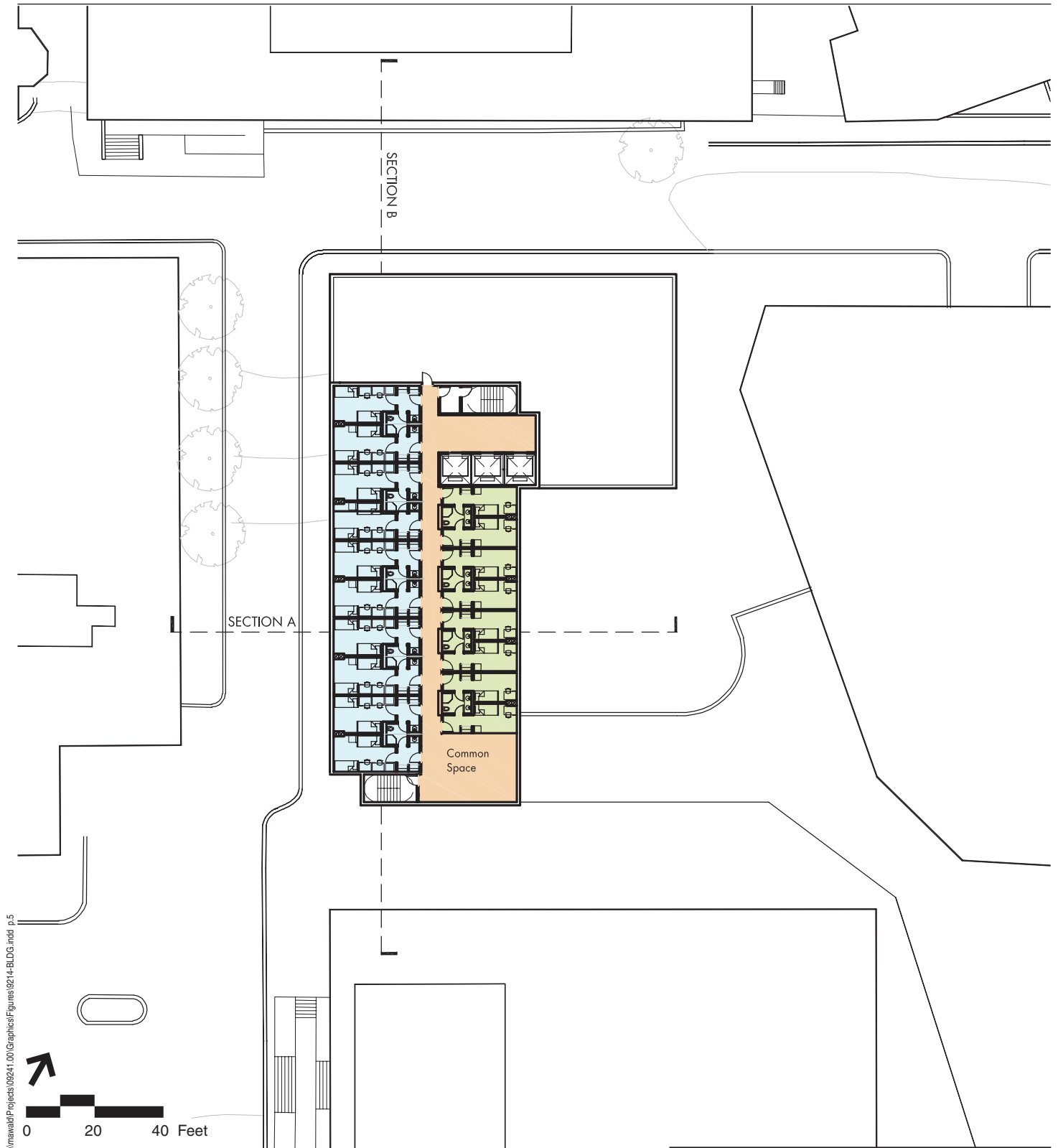
 Apartments A (4 Beds)

 Apartments B (4 Beds)

Figure 3.5
Floor Plan 2 - 5

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.




Vanasse Hangen Brustlin, Inc.

Legend

 Common Space

Residential

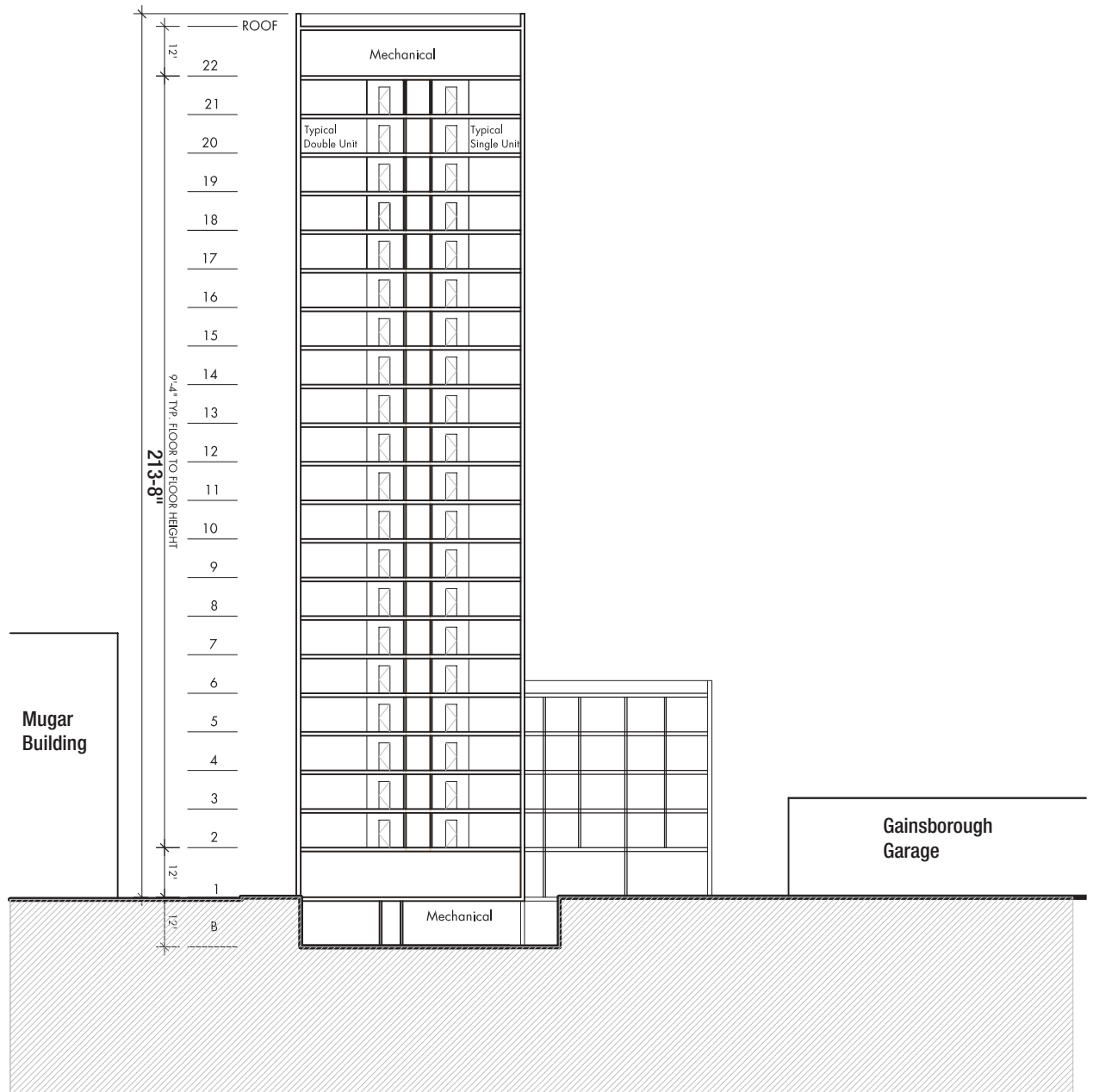
 Doubles (2 Beds)

 Singles (1 Beds)

Figure 3.6
Floor Plan 6 - 21

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.

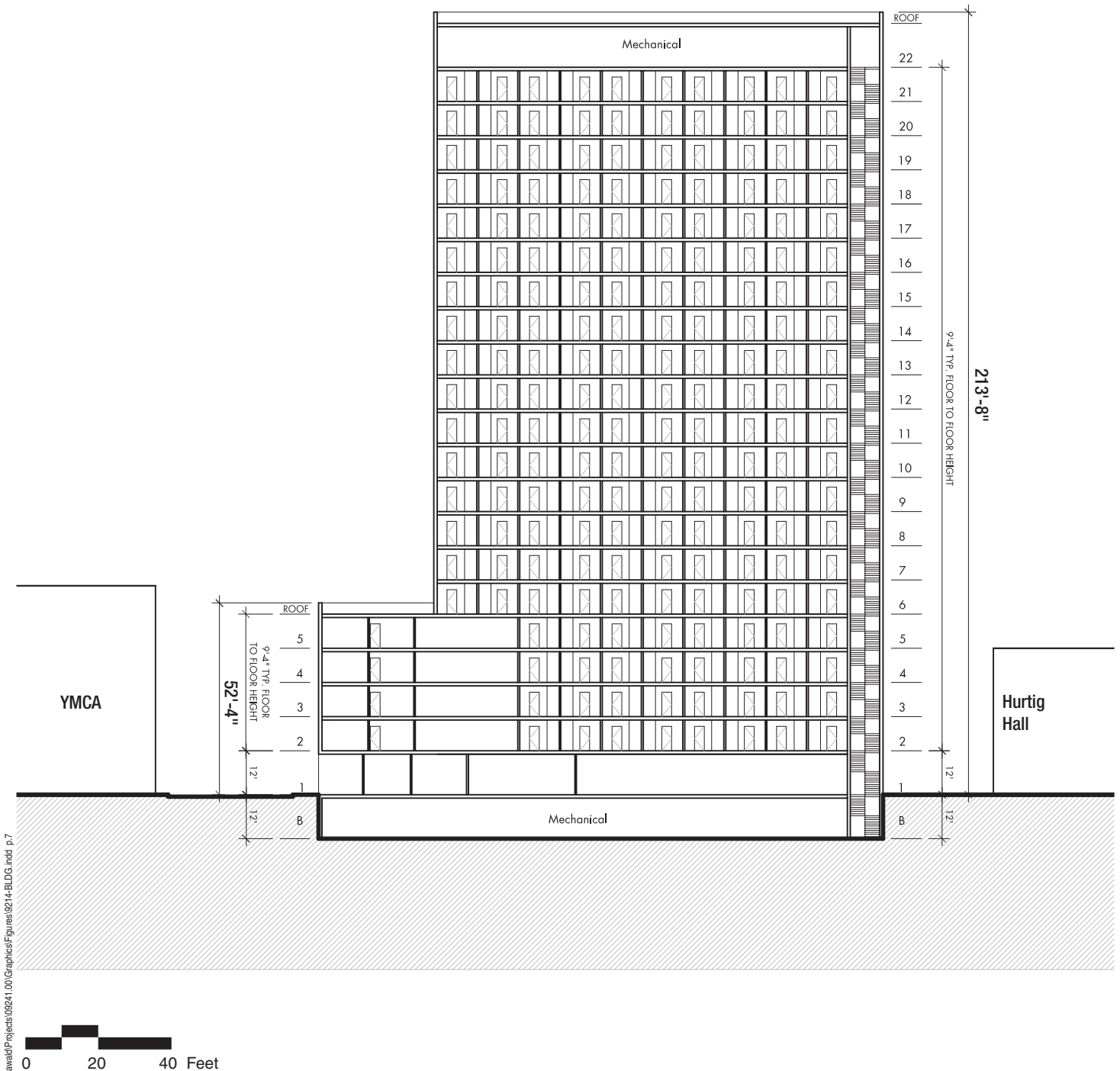


Vanasse Hangen Brustlin, Inc.

Figure 3.7
Cross-Section A

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Vanasse Hangen Brustlin, Inc.

Figure 3.8
Cross- Section B

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.



Vanasse Hangen Brustlin, Inc.

Figure 3.9
Site Model Photographs

Residence Hall K
Northeastern University
Boston, Massachusetts

Source: Kyu Sung Woo Architects, Inc.

Appendix A

Community Benefit Programs

Northeastern University is committed to a constructive, mutually-beneficial relationship with its neighboring communities. Over the years, the University has acknowledged its responsibilities to its neighbors through the creation and enhancement of a community benefits program and by active involvement with its neighboring communities. The community benefits program is described in this chapter. For more information on these and other programs, please see Northeastern's website, www.community.neu.edu. **All programs are run by Northeastern University except those marked with an asterisk (*) that have assistance from the University.**

GEAR UP – The program works with 150 Boston Housing youth to raise expectations and skills to enable success in applying for and attending college.

Boston Scholars Program – This program offers up to 20 full scholarships plus room and board for Boston Public School graduates.

***Health Careers Academy (HCA)** – The University provides discounted classroom and administrative space for the HCA as well as collaborative opportunities for HCA staff and students.

Mayor's Youth Council – Co-founded by Northeastern University, the City of Boston and the Boston Bar Association, this program offers academic, civic and cultural opportunities to teenagers selected from public, private and parochial high schools in Boston.

Fenway Community Health Center contribution – This funding provides direct financial support for the Center, which has pioneered compassionate health care for people suffering from AIDS, meet its daily operating expenses.

Balfour Academy – A tutoring program providing regular after school tutoring and summer long enrichment programs for Boston adolescents.

Jumpstart – The University partnership with Jumpstart enables up to 60 trained students to work with Roxbury pre-kindergarten children through headstart programs.

Boston Police Department Patrol – Northeastern University campus police and the Boston Police Department have formed a partnership in which a “team” of officers patrols the Fenway neighborhood on Friday and Saturday evenings.

Community Liaison Position – Liaison works part-time from September to June addressing off-campus behavior issues in the East Fenway neighborhood.

Camp Agassiz for Neighborhood Children. Each summer Northeastern sponsors youths ages seven to 15 from Roxbury, Mission Hill, the Fenway and the South End, to participate in a two week overnight camping experience in Poland Springs, Maine.

Little Brothers Friends of the Elderly – Northeastern University assists the Little Brothers at Thanksgiving, Christmas and Easter by making its kitchens, food service personnel, staff, faculty and students available to prepare and deliver special holiday meals to elderly shut-ins throughout the City.

YMCA Youth Memberships – Northeastern sponsors on an annual basis 40 youth memberships providing area teenagers access to recreational activities at the YMCA, located at 316 Huntington Avenue.

Community Recreation Access Passes – Northeastern provides 50 community access passes to Boston residents for use of the Marino Recreation Center located on Huntington Avenue on a daily, first come first served basis.

Boston Housing Authority Grant Program – BHA Grant recipients receive the cost of tuition or demonstrated financial need, whichever is less, minus federal and state-funded entitlements.

City of Boston Employees Graduate Scholarship Program – Northeastern sponsors a scholarship program for City of Boston employees for study at the graduate level.

Francis X. O’Brien Scholarships – Northeastern’s Francis X. O’Brien Scholarship Program provides two full-tuition undergraduate student scholarships named in the memory of Boston Redevelopment Authority Board member, Francis X. O’Brien.

Assisted Housing Scholarship Program – This program provides two full-tuition undergraduate scholarships for City of Boston residents residing in assisted housing.

City Year Scholarship Program — Northeastern has formed a partnership with City Year, a Boston-based urban peace corps, to provide scholarships to qualified students in the program.

Allston-Brighton Scholarship. — A one year, full tuition scholarship is awarded each year to a resident of Allston-Brighton who has strong ties to the community and an exemplary record of community service. The University offers this scholarship as a benefit for the presence of the Henderson Boathouse.

Renaissance Park Scholarship Opportunities — Ten recipients are eligible to take up to two courses per quarter from University College in a degree granting or certificate level program.

StrideRiteScholars — Northeastern students work at community-based organizations on University-funded co-ops.

Cooperative Legal Education Program — Law school co-op students serving the public interest.

Degree Completion Program — In exchange for academic scholarships, former Northeastern athletes mentor, tutor and coach community youth in order to complete their education.

CURP — This program sponsors and supports urban focused academics, research and development projects.

Tobacco Products Liability Project and Tobacco Resources — Founded in 1979, TPL works to control tobacco, analyze legislation, informs the media about related information and operates a student clinic to support that work.

Older Industrial Cities Development Project — The Center for Urban and Regional Policy analyzes barriers to business investment in older industrial cities; develops computerized self-assessment tools; creates "best practice" web site templates, and develops training workshops for cities and towns.

Regional Futures Institute — The Center for Urban and Regional Policy conducts applied research on the role of regions in the intergovernmental system with specific focus on public sector regional councils for the National Association of Regional Councils.

World Class Housing Collaborative — The Center for Urban and Regional Policy provides direct assistance to Boston-area neighborhood associations and community-development corporations to assist in production of affordable housing.

SOC 1601 Social Conflict and Community Service — Sociology students perform community-oriented projects in order to expand their experiences. The students will work in teams on projects which deal in some way with social conflict, broadly defined.

Connections — Engineering program for women; works with students from middle school through to their undergraduate education to mentor and support their studies and personal growth.

***The Black Ministerial Alliance/Victory Generation After School Program** — After school enrichment programs run by 60 African American churches to benefit Black people in Boston. Focused on children aged 5-14.

***Freedom House Black Church Math and Science Project** — Providing tutors to after school programs for middle school students

***Hattie B Cooper Community Center** — Providing support services to a number of programs at the community center.

***Madison Village Youth Rap** — Focus on improving child literacy and self-esteem.

Whittier Street Health Center (WSHC) — In conjunction with the University's purchase of Parcel 18, the University agreed to provide 30,000 gross square feet of space to WSHC for no rent for 30 years.

***Resurrection Lutheran Church** — Educational enrichment activities held at the Lutheran Church; homework help, snacks and literacy activities.

***St Francis/St Phillip After School Program** — 70 college students help with after school tutoring, educational enrichments.

***Boston Science Partnership** — NU works with grade 6-12 science classes in BPS for educational enrichment and teacher enhancement.

***Envision Leadership** — Summer leadership programs that help Boston area high school students become better leaders.

***Senior Program** — Programs to entertain and education senior citizen.

GK-12 Program — A program that funds graduate students and advanced undergraduate students in math and sciences to act as resources for area schools.

***Ittest** — TechBoston and Northeastern University integrating robotics curriculum into science, technology, engineering, and mathematics (STEM) in BPS and other districts.

MassPromise Fellows — 25 fellows work more than 1700 hours around the state of Massachusetts doing various projects.

***Professional Development in Education** — Participants work at multiple school sites, in and out of Boston; focus on math and reading/literacy, paraprofessional and professional development.

Research Experience for Teachers — Six-week summer program by NU and UMass/Lowell that exposes middle, high school and CC teachers to science research.

Northeastern Library Services — Northeastern University Libraries provide public access to its facilities, meeting rooms, computers, printed materials, electronic resources, and archives collection.

Boston Public Schools Annual Science Fair – Northeastern University hosts the annual Science Fair for Boston Public Schools students.

Community Service Work Study Tutors — The Office of Community Service offers spots for 20 work study tutors to assist non-profits in tutoring literacy, social skills, and academic performance.

Young Scholars Program — Boston area high school juniors and seniors spend six weeks of summer at NU's campus (earning \$150/wk) learning about science, college, careers and experiments www.youngscholars.neu.edu.

Athlete For a Day — 15 to 20 middle school or younger students come to campus to attend practice and classes with NU soccer players.

S.H.A.R.E. (Students Helping Adults with Reading and English) — Adult ESOL programs; taught by student volunteers or work-study students.

***Caregiver program** — NU's School of Nursing joins with community groups to offer this annual program, which connects caregivers with information and resources to help them care for their loved ones.

***Community Health Outreach** — NU School of Pharmacy students join with Harbor Health Services, Inc. to offer monthly outreach programs at Walgreen's Pharmacy in Dorchester. Topics include influenza, diabetes, and the common cold versus the flu.

***Community Service Learning (fitness)** — NU's Physical Therapy Department conducts programs for children and senior citizens with the goal of improving health through exercise and education. Programs include Fit Kids and Elder Exercise.

Early Intervention Certificate Program — Program prepares interdisciplinary personnel at the graduate level to provide services to infants and toddlers with disabilities, or at risk for developmental delay; diverse group of clients, most local to NU.

Elder Arts Program — The NU Center for the Arts joins with Government Relations and Community Affairs to provide community senior citizens with complimentary tickets to cultural and musical performances on campus.

G-Row Boston — G-Row Boston makes rowing available to high school girls. While rowing is the medium, the focus is teamwork, dedication, and commitment.

Husky Baseball Clinics — NU baseball coaches and athletes offer baseball instruction to local boys and girls. Boston-area students, ages 7-15.

Husky Swimming/Diving clinics — Coaches and athletes (women's swimming and diving) offer instruction to youths.

Husky YMCA Field Hockey Clinics — The clinic introduces intercity youth to the sport of field hockey.

***Massachusetts Student Athlete Citizen Awards Ceremony** — Honoring high school athletes who are nominated by their respective schools for achievement in athletics, academics, and community service.

High School Outreach Program — Outreach to High School Students in greater Boston Area about Law School and higher education.

***Match-Up Interface Volunteers** — The mission aims to reduce social isolation among the elderly and disabled of Boston.

Respiratory Health Programs — Camp Chestnut, Asthma 101, Open Airways. Programs that educate children and community about respiratory health.

Speech Language and Hearing Center — The center provides assessment, treatment, counseling, and referral services to children and adults with hearing, communication, or swallowing problems.

Senior Bus Program — Every Wednesday, senior citizens who live near NU's campus take advantage of free transportation to area dining and shopping destinations.

Thanksgiving Dinner for the Elderly — On the Sunday before Thanksgiving, senior citizens in the Fenway and Roxbury communities are invited to a Thanksgiving dinner on campus.

American Civil Society of Engineers — Through this professional society, engineering students participate in community service projects. Students recently designed and built a 32-foot foot-bridge over Pine Tree Brook in Milton, Massachusetts. Other area projects have been completed.

Year Up — NU's MBA Career Center provides job-search preparation and mock job interviews to clients of Year Up.

Health in Motion Van — The van is equipped to provide health promotion, health education, basic healthcare screening services, carry equipment, materials, and personnel. Providing services and practical student experiences are among the goals.

*** Mayor Menino's Boston Shines, Citywide Neighborhood Cleanup** — Boston Shines is an opportunity to work side by side with students, faculty, neighbors, corporate volunteers, universities, neighborhood businesses, public organizations and private agencies to help clean Boston.

*** Student Outreach for Law Librarianship at Library Schools** — Informational Sessions about Law Librarianship; to expose library students to life as a legal librarian.

*** Street Law Clinics; National Lawyers Guild, Massachusetts Chapter** — Student run (attorney supervised) clinics at community centers, health centers, and other community venues usually around housing issues.

Prisoners' Assistance Project — Law students represent prisoners at disciplinary, parole and parole revocation hearings.

*** America Reads** — After school literacy tutoring services for elementary aged school children.

Law, Culture & Difference — Law school course where first year students work with community/ government organizations that serve low-income clients.

Marketing Research — Student marketing teams, under the direction of their professors, conduct research projects for area businesses and nonprofit organizations.

*** Homeless Shelter Language Stimulation** — NU students of Speech-Language Pathology and Audiology facilitate a weekly storytelling group for children in Boston homeless shelters. The program helps develop the children's language literacy abilities.

Housing Research — Architecture students do housing/ development research in variety of locations in and around Boston.

Housing Studio — Juniors in the B.S. Architecture degree program spend one semester designing urban housing solutions for area communities. Recent examples include Union Square, Somerville; Forest Hills, Jamaica Plain; Geneva Avenue, Roxbury, etc.

Urban Development Course — The students do case studies of areas where development issues are currently “in play.” This past semester, the course focused on three areas: South Weymouth Naval Air Station, The Cranberry Properties in Carver, and Sullivan Square in Boston/ Somerville.

Holiday Toy Drive — A campus-wide drive every November and December collects and distributes toys for children in community churches and programs.

***Clothing Drive for Survivors of Rape and Sexual Assault** — Clothing collected by the University Health and Counseling Service and SARAA - Sexual Assault and Rape Advocacy for Awareness to be given to shelters and women at the hospital post assault.

Thanksgiving Food Drive — A campus-wide food drive every October and November collects and distributes donations of food items to community centers, churches, and Head Start programs.

NU Community Flower Drive — Each spring, NU and the Fenway Civic Association partner to provide flowering plants to community residents to help beautify the neighborhood, boulevards and parks. Hundreds of flowers are donated by the University.

MLK Day of Service — Usually over 100 student volunteers on various projects around the city.

Alternative Spring Break — Students use their spring breaks to volunteer somewhere else. The most recent example was when students drove to New Orleans to help clean up after Katrina.

Circle K — A group of Northeastern Students that undertakes various volunteer projects in Boston and Cambridge. With an enrollment of 45 students, the program raises about \$2,000 for the community and does more than 2,000 hours of community service per year.

Xcel — Xcel members work with Gear Up and other programs to mentor and develop programming and various educational activities with varied student populations.

***Information Design: Explaining a Math or Scientific Process** — A program that brings together graphic design students with 8th graders at Renaissance Charter School.

***RE-SEED (Retirees Enhancing Science Education through Experiments and Demonstrations)** — Older science, engineering, etc volunteers providing support to middle school and high school science classes.

NU Service Day — NU Service Day is an opportunity for students, faculty, and staff to join with local residents to provide valuable service to neighboring communities and organizations.

***Volunteer Fairs** — Held twice a year, the fairs bring together representatives of 30 to 50 community organizations with NU students and staff to promote various volunteer, work-study, co-op, internship, and service-learning opportunities.

Poverty Law and Practice — A clinic run during the school year that assists low-income people with legal matters - direct service provided by law students.

Boston High School Graduations — Use of Matthews Arena is given to Boston High Schools for graduation ceremonies. Five schools took advantage in 2006: West Roxbury, Latin Academy, Madison Park, Hyde Park, O,Bryant.

Husky Athletic Club Corporate Sponsor Community Ticket Program — Tickets for NU athletic events are given away to community groups. Available tickets are for home events and have been donated back to the athletic department by corporate sponsors specifically for community use.

Community Tax Aid of Boston — Community Tax Aid, in conjunction with NU's College of Business Administration, provides free tax preparation to low-income taxpayers.

***Brighton High School Career Day** — Law School representatives participate in Brighton High School Career Day for Students of Color.

***Reference Assistance and Library Access to Pro Se Patrons and other members of the public** — Assistance to General Public in finding legal materials.

***Massachusetts Office of Consumer Affairs & Business Regulation-Lemon Law Program** — Law School faculty members act as arbitrators in legal disputes over cars in a program run by the MA Attorney General's Office of Consumer Affairs.

***Massachusetts Bar Association Fee Arbitration Board** — Law School Faculty act as arbitrators to fee disputes between clients and lawyers.

***Boston Bar Association/Boston Municipal Court Conferencer** — Law School Faculty assisting in pretrial cases for the Boston Municipal Court.

***LLNE News** — Newsletter of Law Librarians of New England a local chapter of American Association of Law Librarians.

Architecture Lecture Series — Public lectures given by the Architecture Department on various subjects. Lectures are open to the public and given by urban designers, planners and public officials.

Snow Emergency Parking – Northeastern provides parking for local residents during City-designated snow emergencies.

* The marked programs are programs Northeastern University assists the community with funds, expertise, and management.